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TOM SILVA
This Old House
general contractor

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A sunlit room with a desk, a window with a birdcage, and a large window with shutters. The room is filled with warm, golden light from the windows. On the left, a wooden desk holds a typewriter, a lamp, and a small bust. A framed picture hangs on the wall above the desk. In the center, a window with white shutters looks out onto a green landscape. A wire birdcage hangs from the window frame, and a blue dress is draped over it. To the right, a large window with white shutters is open, letting in bright light. A windowsill with various glass bottles and a vase is visible. The floor is made of light-colored wood.

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"I can't wait to get there"
always turns into
"I can't wait to get home."

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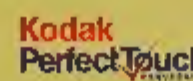
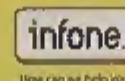


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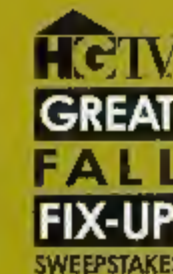


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A pro's guide
to great results,
page 99.

features

Appalachian Tale

A seedy shack blossoms into a weekend retreat. BY LAURA FISHER KAISER

84

Barn Storming

The new TOH TV project will turn a backyard storage shed into a cozy cottage. BY DAN DICLERICO

90

Get Ready for Fall

Now's the best time to spruce up your yard. BY JOSH GASKOF

92

The Perfect Paint Job

Painting contractor Jim Clark reveals his secrets. BY MARK FEIRER

99

High Drama

Putting a hilltop house back on firm footing. BY LAURA FRASER

108

Recessed Lighting

Neat and discreet, recessed lighting can work in every room of the house. BY MAX ALEXANDER

116



RECESSED LIGHTING, P. 116



GET READY FOR FALL, P. 92



HIGH DRAMA, P. 108

cover

Choosing the color to paint their house is what preoccupies most homeowners, but the difference between just giving it a fresh coat and achieving a beautiful paint job is meticulous preparation—patching, sanding, priming, etc. To see how a pro does it, read "The Perfect Paint Job," page 99. PHOTOGRAPH BY WEBB CHAPPELL

PHOTOS (CLOCKWISE FROM TOP): JOSHUA McLUIG; MARK DARLEY; KELLER & KELLER; COURTESY LIGHTOLIER

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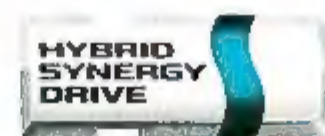
Now you can hug corners while you hug Mother Nature.

Toyota's revolutionary new Hybrid Synergy Drive* combines a gasoline engine with a powerful electric motor that never needs to be plugged in. The result? Super-efficient, super-charged performance. This groundbreaking yet affordable technology hits the roads this fall in the next generation Prius. Prius achieves nearly 2.5 times the average fuel efficiency of conventional vehicles and close to 90% fewer smog-forming emissions – all while accelerating from 0 to 60 mph in 20% less time than its competitor.*

Beyond Prius, Hybrid Synergy Drive will be available in more and more Toyota products – including SUVs.

With Hybrid Synergy Drive, we're helping save the planet. Faster.

toyota.com/tomorrow *Manufacturer's testing for 2004 est. city & combined mpg: 0-60 mph for comparison only. Obtained with prototype vehicle by professional using special procedures. Do not attempt. ©2003

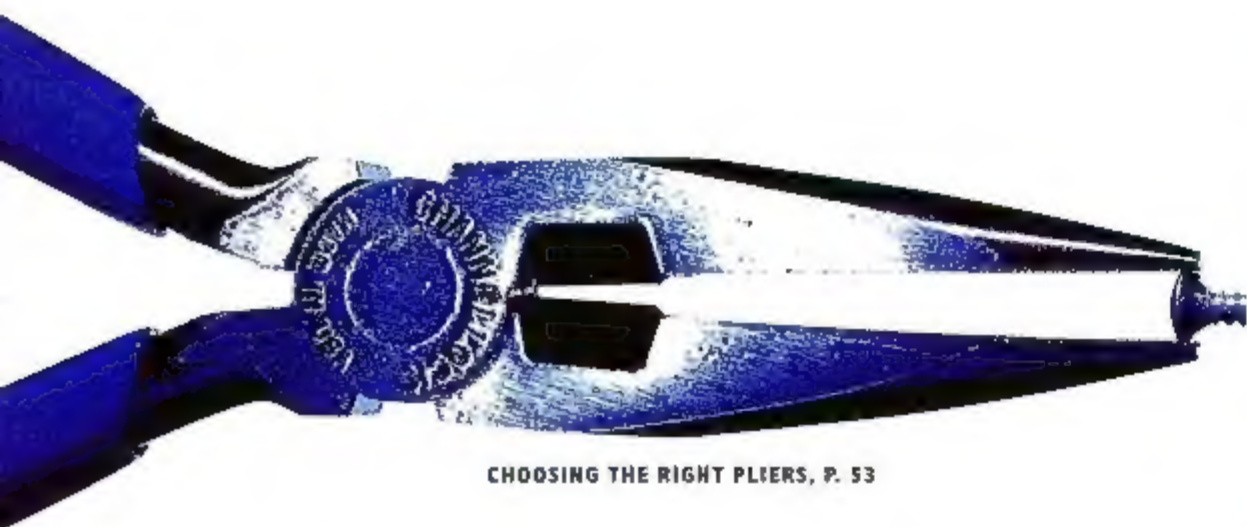


TODAY

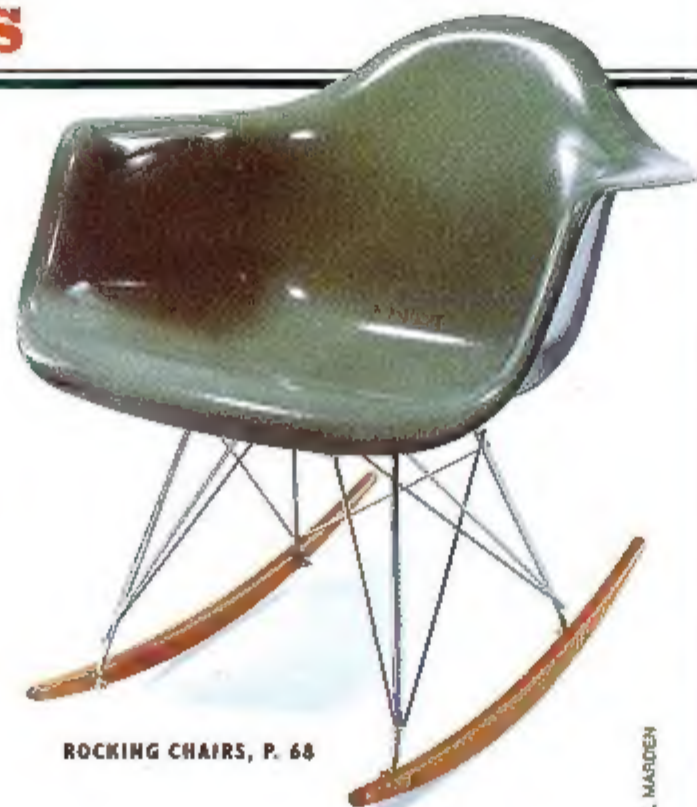
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CONTENTS



CHOOSING THE RIGHT PLIERS, P. 53



ROCKING CHAIRS, P. 68

departments

This Month Online	18
Letters	20
On the Job <i>Vanquishing house-eating ivy; Lesson Learned; TOH Technique; etc.</i>	22
House Calls <i>New sleek surfaces bring a kitchen's look in line with its contemporary house</i>	27
Ask This Old House <i>Getting a grip; ridge vents on low-slope roofs; etc.</i>	32
By Design <i>Copper architectural details from today's master craftsmen</i>	39
Upkeep <i>Storm windows do the job of replacement windows for a fraction of the cost</i>	44
Talking Shop <i>Choosing the right pliers for the job</i>	53
Home Technology <i>Whole-house and portable filters trap dust, pollen, and more</i>	60
Luxuries <i>Through many styles, rocking chairs exert a timeless appeal</i>	68
Homeowner's Handbook <i>Installing a freezeproof faucet</i>	75
Letter From TOH <i>Norm Abram stays a step ahead on seasonal chores</i>	82
Norm's Notebook <i>Paint scraper tune-up; extending door and window jambs; etc.</i>	123
Directory	129
This Old House Classics TV Program Guide	130
Where to Find It	131
This Old House TV Listings	136
Save This Old House	152



ON THE JOB, P. 22



COPPER DETAILS, P. 39

PHOTOS: (CLOCKWISE FROM TOP LEFT) MARK VIKER, MEDJELIKO MATURA, COURTESY VULCAN SUPPLY CORP. ILLUSTRATION: PHIL MARDEN

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TELEVISION PROGRAMS

The Web Cam Is On!

You'll see our fall 2003 project on television starting in October, but you can get a sneak preview of the work in progress right now in the Television Programs section.

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HOMEOWNER KNOW-HOW

We asked: **What's it like to work on a home project with your significant other?**

You said:

15.0%	Love Boat
11.3%	Friends
13.8%	Who's the Boss?
24.6%	Weakest Link
33.6%	Divorce Court

See what others think about anything and everything home-related. Take a new poll every week in the Homeowner Know-How section.

CALCULATORS

How Much Paint Do I Need?

Your living room is 12 by 24 feet, with 8-foot ceilings, but how does that translate into gallons of paint needed to cover it? Let us calculate it for you. We also do windows, doors, carpeting, air conditioning, and more. Find them all in the Tools & Services section, right on the home page.

Shortcuts: For links to these pages and more, go to www.thisoldhouse.com/shortcuts.

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PHOTOS: SUSIE CUSHNER (TOP LEFT), JAMES WOLCH (BOTTOM LEFT)



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09.20.03

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To find out where you can help, visit:
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or
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L E T T E R S



Color Quest

My husband and I had been searching for the right color to paint our house, then we spotted your June 2003 issue—eureka! We would like to know the name and manufacturer of the paint on the house on the cover. It will help us to end a three-month-old debate.

JESSICA LESLIE, ARLINGTON, VA.

The editors reply: Many readers have asked the same question. We have not been able to track down the specific paint (the work was done some time ago), but you might be better off matching it anyway. Photographs seldom reproduce the actual hue of the paint as it would appear to the naked eye. Your local paint store or home center should be able to match the color from the photo, or, check the chips from your favorite premium brand to find a close match (the "historic colors" lines usually have appealing, classic exterior shades). Then buy a sample quart to try on site.



A Whale of a Mix-up

We were delighted to have our humpback-whale weather vane featured in the June 2003 issue. Unfortunately there was an error that your readers should be aware of. The unique cardinal points we handcrafted to complement our humpback-whale design were not photographed as part of our piece but instead appeared under another weather vane. Each of our distinctive weather vanes is the result of many hours of work using the traditional technique of copper

repoussé, and always includes a gleaming set of Tuck & Holland signature brass cardinal points.

ANTHONY HOLLAND, TUCK & HOLLAND METAL SCULPTORS,
MARTHA'S VINEYARD, MASS.

The editors reply: Our apologies to Tuck & Holland. Here (REI, LOW LEFT) is the weather vane as it should have appeared.

Caulk, Seal Thyself

[Re Norm's Notebook, "Unplugging Caulk Tubes," June 2003.] Nobody believes me on this, but there's only one way to save caulk, and that is to let the caulk seal itself up. Put a big glob of fresh caulk over the tip when you're done; when you need to use it again, just remove the dried tip. I have had caulk stored like this for six to nine months, and every time it was as good as a new tube.

JIM SAYLOR, WAUKEE, IOWA



Definitely "One of Us"

This is a picture of my husband, Specialist Daniel Erickson of the 353rd Transportation Company, reading his *This Old House* magazine [April 2003] in Iraq atop his 18-wheeler. He said in a letter, "I found it ironic that I was reading about landscaping tips in the middle of the desert." He's a big fan of *This Old House* and is in the middle of remodeling our house as well as studying architecture at the University of Minnesota. I thought you might be interested in sharing the exposure your magazine has—Dan was still getting his subscription in the middle of the desert during a war!

ERIN ERICKSON, MINNEAPOLIS, MINN.

Notching Deck Posts

[Re Ask This Old House, "Attaching Wood Posts to a Concrete Patio," April 2003.] The National Design Specifications for Wood Construction states, "Notching of bending members [e.g., as in a railing post subjected to a "bending" force] should be avoided whenever possible; especially on the tension side of the member." If

and when it is allowed, the NDS says the notch shall not exceed one-sixth the depth of the member. With a 4x4 post, therefore, you are only allowed a 3/8-inch notch [not 1 inch as shown in your design].

JOHN F. STANTON, P.E., KING GEORGE, VA.

Tom Silva replies: After reading your letter, I called the American Wood Council, which gave me the latest recommendations from the NDS. These now say that a cantilevered 4x4 railing post may be notched at the end, as in our design, but the notch would be limited to one-quarter the depth of the post, or 1/2 inch in this case. Either way, you're right—1 inch is too much.

Just keep in mind that national codes are guidelines. Your local building authority may have different standards, so be sure to check with them before planning any project.

Better Than Bungees

Just wanted to drop a suggestion concerning ("Hauling Safely" in) Norm's Notebook in the May 2003 issue. I would recommend using web straps

with cam buckles over using bungee cords any day of the week. Bungee cords can stretch or break, and the hooks can bend and cause all sorts of headaches. The cam strap has to be the preferred method for making loads secure.

TRAVIS HAMRICK, REDLANDS, CALIF.

Norm Abram replies: Bungees are fine for light to average duty, but cam straps (also called utility, tie-down, or ratchet straps) with metal buckles do make great sense, particularly for larger and heavier loads. You can find straps at outdoor-recreational suppliers such as Northwest River Supply (www.nrsupply.com) and REI (www.rei.com).



In Memoriam: Richard Bilo

This Old House lost a good friend when Richard Bilo passed away suddenly on May 23, 2003, from a heart attack, at the

age of 56. Richard was an incredibly gifted heating professional—a pioneer in the industry who brought his expertise to many TOH TV projects and magazine articles. TOH plumbing and heating expert Richard Trethewey remembers his friend and colleague as a serious guy who loved to laugh. Above all, though, he recalls a man who had the respect of everyone on the job site. "Richard made me look like a beginner—his skill level was that good," he says. Richard is survived by his wife and four children. He will be sorely missed but never forgotten.

punch list

Definition: a list of items incorrectly done or remaining to be finished on a construction job.

• The Directory entry for "Little House, Big City," June 2003, should have credited the kitchen-swing room windows to Della Williams and Doors, Penn., Iowa 888 847 3553; www.pcna.com.

• In the Directory section for "Up a Tree," May 2003, we printed the fax number for the Treehouse Workshop instead of the telephone number, which is 206-784-2112.

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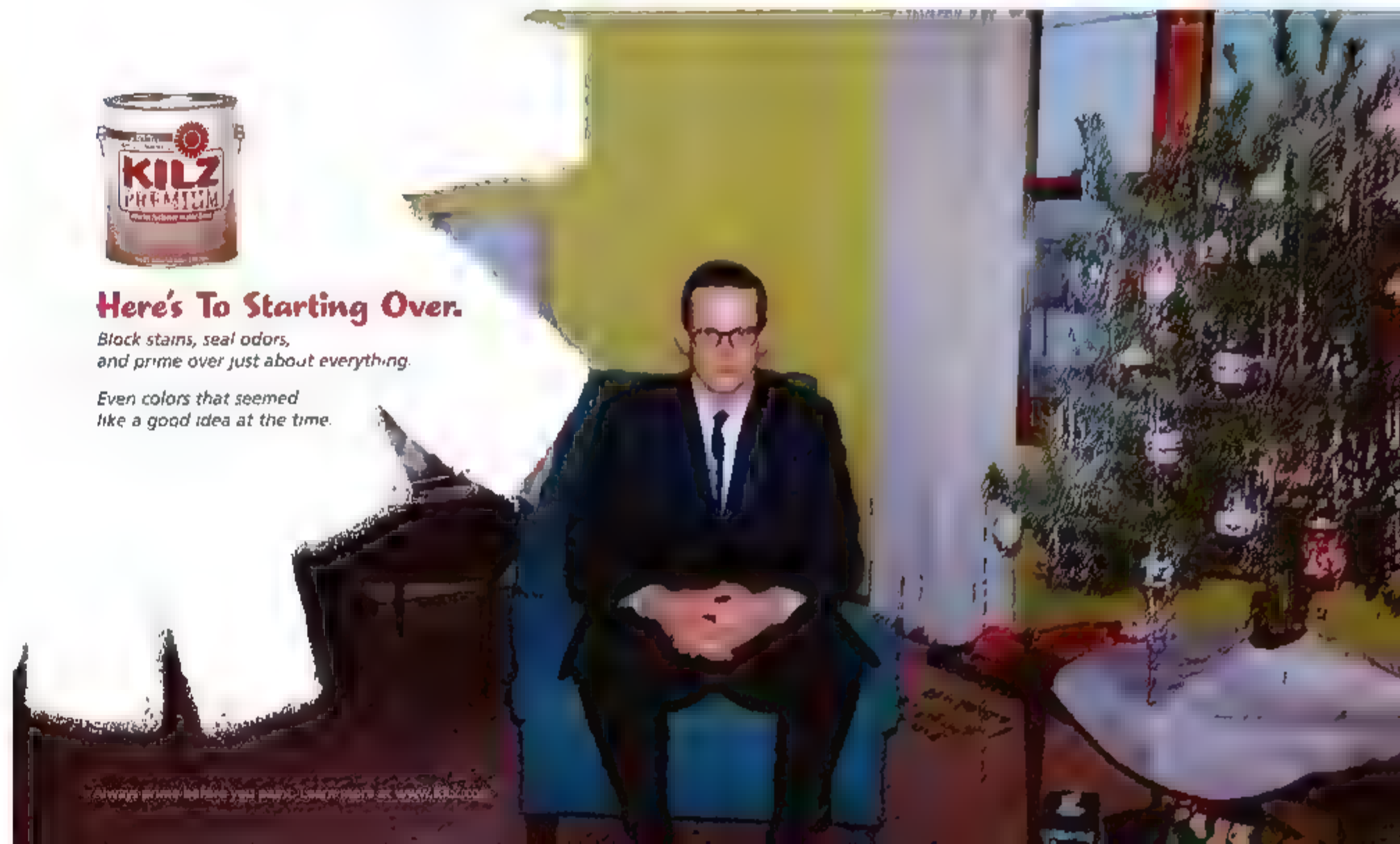


Here's To Starting Over.

Block stains, seal odors,
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Even colors that seemed
like a good idea at the time.

PHOTO: ROBERT BENSON PHOTOGRAPHY (TOP)



ON THE JOB AT THIS OLD HOUSE

BY DAN DICLERICO

Vanquishing the House-Eating Ivy

An Ask This Old House Follow-up Story

IT WAS ONE OF THE MORE DRAMATIC MOMENTS FROM LAST year's kick-off season of *Ask This Old House*, where the TOH crew makes house calls to homeowners in need. Landscape contractor Roger Cook trekked out to Madison, Wisconsin, to help first-time homeowners Mark and Bridget Wegener wage war against a threatening porcelain berry ivy vine. "I've never seen anything like it," says Roger. "Their house looked like a giant trellis."

The vine's aggressive suckers had worked their way under the siding and even through a few windows—an invitation to moisture and rot. And it was housing numerous bugs, bats, and birds.

After a quick lesson on ladder safety, Roger got the couple started removing the tenacious ivy, but left them with hundreds of square feet to clear themselves.

How did they fare? After more than 50 work hours, spread across months of weekends, the pair finally eliminated the last traces of the ivy. And in a couple more weekends they should be done sanding and scrubbing the siding smooth to receive a new coat of paint.

Standing on 20-foot-high scaffolding, Roger Cook and homeowner Mark Wegener tear down part of the tenacious ivy.



"Having the show be so confident that we could do it gave us confidence," says Mark of the project. "It's been a lot of work, but the house looks great."

LEFT: The previous owner had trained an ivy vine over three sides of the house. RIGHT: Today, the siding is ivy-free and being readied for a new coat of paint.

What wild rides will other motivated homeowners embark on in the name of home improvement? Stay tuned. The new season of *Ask This Old House* begins airing October 9 on PBS.

HOUSE DRESSING USA



HERE'S A LOOK AT THE breakdown of exterior wall materials used on houses built in 2001. How times have changed: 25 years earlier, wood topped the list at 38 percent, followed by brick (31 percent), stucco (12 percent), and aluminum (11 percent).

SOURCE: U.S. DEPARTMENT OF COMMERCE

Did You Know...

YOU'VE PROBABLY EATEN A lot of shellac in your life. Besides enhancing the finish on wood, this all-natural product—made from the secretions of the Asian lac bug—is used in an FDA-approved wax coating covering numerous food items, including chocolate-covered raisins and those perfectly glossy apples you find in the supermarket.

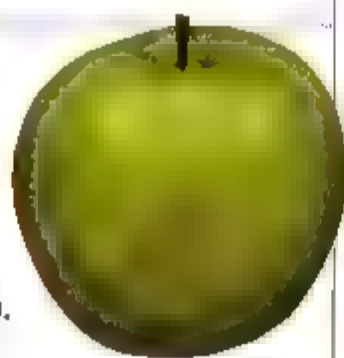


PHOTO: BOTTOM/RIGHT: DAVIES & STOKER/GETTY IMAGES; IVY: INFOGRAPHIC; BRYAN CHRISTIE

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BEFORE & AFTER

TOM AND ANGELA WILCOX BROUGHT BACK THE BEAUTY OF THIS "painted lady" Queen Anne in Cincinnati, Ohio. Built in 1896, the house had lost the colorful vibrancy that defines this style of Victorian architecture. Its elaborate wooden porch and front railing had been traded in for a plain concrete stoop. Restoring the porch and railing was a painstaking process. All the posts and rails were custom milled, and 600 turn-of-the-century spindles were hunted down at a remote salvage warehouse. A transom over the front entrance and a pair of properly sized two-over-two windows restored full harmony to the facade.

Have you dramatically altered the look of your home? If so, send before and after snapshots, plus a brief description of the project, to: *This Old House*/DO, 1185 Avenue of the Americas, 27th Floor, New York, NY 10036.

TOH TECHNIQUE

BUSTING UP CONCRETE

IF YOU NEED TO REMOVE slabs of concrete—an old sidewalk or exterior stair landing, for instance—spare your back by first breaking the slabs into small pieces. Note: This technique is less effective on rebar-reinforced concrete.

STEP 1: With a crowbar, pry up the slab high enough to slip a medium-size rock underneath; the rock should sit as close to the center of the slab as possible.

STEP 2: Using a sledgehammer, whack the slab on its raised end. With the rock acting as a fulcrum, the concrete will split with minimum force. Shards will fly as well, though, so be sure to wear safety goggles.



POCKET KNIFE

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Lesson Learned

BY JOHN DEE



COLDEST WEEK OF WINTER, I'M PAINTING AND PAPERING a children's room in a drafty old Colonial. Besides the ceiling and trim, among the things to paint is a steam radiator. We get to this late one afternoon, removing the pressure-relief valve to keep it free of paint. By the end of the day most of the walls are papered, and as we leave, we close the door to keep the kids out.

That night, while the family slept unaware, the room turned into a sauna. We'd forgotten to put the valve back on when we reinstalled the radiator. All night long it blew steam. When we walked in the next morning, giant drops of water were dripping from the ceiling. Rivers cascaded down the papered walls. In a final, jeering irony—the motif on the kids' wallpaper featured the Man in the Moon blowing mist from his mouth!

The mop-up operation took most of the morning. But except for the ceiling's finish coat, everything survived. I guess mishaps are good if we learn from the mistakes. And the comical elements of such disasters do get better with age.

Got your own lesson to share? It could be worth \$100 if we publish it. Send your 200-word column to: *This Old House*/DO, 1185 Avenue of the Americas, 27th Floor, New York, NY 10036.

PHOTO (TOP RIGHT) LUIS BRUNO; ILLUSTRATIONS (LEFT) AMY WORTON (RIGHT) PHIL MARDER



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True Americana

NEXT TIME YOU'RE DRIVING down a backcountry road and pass a barn, take a good look—it may not be there for long. These vernacular American structures are vanishing woefully fast: an estimated 4.5 million have been lost since the 1970s. John Michael Vlach's *Barns* (WW Norton/Library of Congress 2003) looks to preserve them for posterity, at least in image. Drawing from the Library of Congress's vast collections, Vlach gives a fictional history of the barn, tracing its influences back to Europe. Printed in black and white, *Barns* is more field guide than coffee-table book, though a true barn enthusiast will be fascinated by its depth and breadth. Available from www.wwnorton.com for \$75.

PERSONAL APPEARANCE
CALENDAR
SEPTEMBER 2003

NORM ABRAHAM
SEPTEMBER 19

Blain's Farm and Fleet,
1400 West Main Street,
Watertown, W.
Details:
920-261-4910

Timber Quest

One man's
search for
centuries-old
lumber



SOME FOLKS HUNT ANIMALS, SOME ANTIQUES. WILLIE DRAKE hunts lumber. As president of Mountain Lumber, in Ruckersville, Virginia, Drake scours the globe for derelict structures that are a century old or more. If he can reclaim the wood, he ships it home to be cleaned, sawed, kiln-dried, and milled. It then sells as flooring, starting at \$6 a square foot.

For Drake, no two hunts are ever the same. Once, he simply had the good fortune to sit beside a local vintner at a restaurant in France. "Before the meal was out, he'd made me an offer on a few dozen century-old oak wine casks," says Drake. Usually, though, success requires more perseverance: Of the 100 or so leads that he chases down each year, better than half come up empty.

A recent trip to Hereford, England, where Drake was lured by a rumor of a hundred-plus dismantled cider vats, seemed like another dead end. "As we approached the site, there was literally a cloud of fruit flies hovering over the wood," he says. When he pried down one of the boards, though, he knew he had a winner—tight-grained oak with a golden-red hue from years of sitting in cider. Given its history, the English brown oak (which totaled 178,240 board feet) may just be Drake's favorite find. But with tips coming in from as far away as China, that could change at any moment.

For more information, visit www.mountainlumber.com.



TOP: One of the 60,000-gallon cider vats that Willie Drake (LEFT) tracked down in Hereford, England. ABOVE: The reclaimed timber gets a second life as character-rich oak flooring.

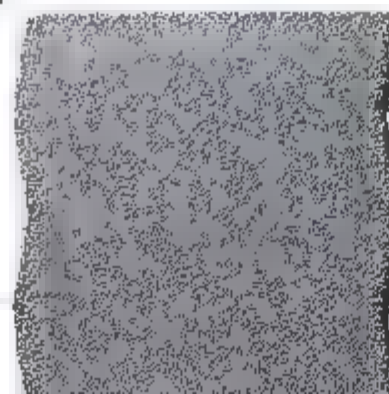
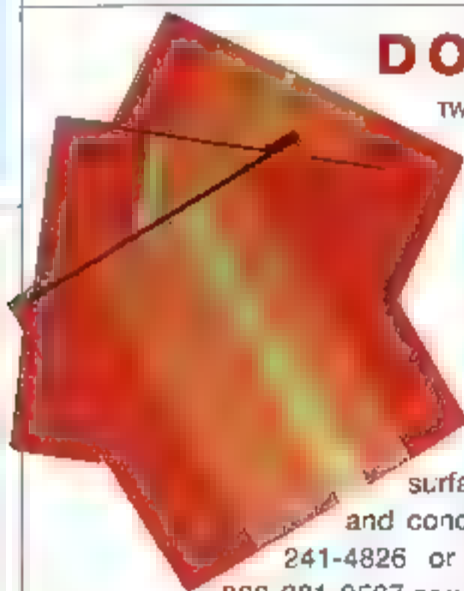
DO-IT-YOURSELF CARPET

TWO NEW TILE SYSTEMS MAKE INSTALLING CARPET AN EASY AT-HOME PROJECT.

The Legato line from Milliken, consists of 22-by-23-inch plush-carpet panels (\$1.99 a square foot) with nonslip foam backings. Designed exclusively for wall-to-wall, the stain-resistant panels (choose from 10 colors) lock together simply and seamlessly. Flor, from Interface, is available in an array of modern designs. The 19½-inch-square peel-and-stick tiles (\$2.60 to \$3.70 a square foot) can cover an entire room or just a section for the look of an area rug.

Both products can be installed over almost any smooth solid surface, including hardwood, vinyl, and concrete. Legato is available at 800-241-4826 or www.legatocarpet.com. Flor, at 866-281-3567 or www.interfaceflor.com.

ABOVE: Flor's edges blend right into their modern design. RIGHT: The wavy sides of Legato's carpet tiles conceal the seams.



PHOTOS: (TOP LEFT AND BOTTOM RIGHT) LAURA JOHANSEN (2)



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**On HP premium plus photo paper, based on testing performed by Wilhelm Imaging Research, Inc.

Moving moments

[Smart ideas for moving into married life]



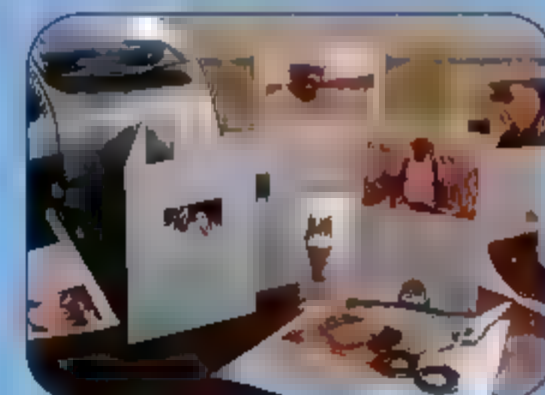
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■ **ENGAGING EVENTS** Personalize your engagement party or rehearsal dinner. You can design your own invitations, place cards, centerpieces, gift tag, decorations, even photo thank-you notes. Then print them out on your HP Photosmart printer for outstanding results.

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Moving moments

[Smart ideas for moving into parenthood]



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a whole new life

Lions and tigers and bears... oh, my! Who would have thought that someone so small could bring changes sooooo big. HP's full line of digital photography products help you capture and share it all. With photos that celebrate all the colors of your life and papers and inks that resist fading for generations.*

Use an HP all-in-one to create everything you need to make the shower special, from customizable invites to games, gift list, guest lists, and thank yous.

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How about an instant baby shower brag book, the perfect make-it-yourself memory? Take photos of guests, gifts, and games, add captions on your HP computer, then print them out on your HP Photosmart printer using HP Premium Plus photo paper and insert into an album. Before the last guest leaves, you've got a book of memories to last a lifetime.*

* Fade resistance up to twice as long as traditionally produced photos, based on Wilhelm Imaging Research, Inc. using the HP 58 inkjet photo cartridge on HP Premium Plus Photo Paper. Photo quality based on independent testing by SpencerLab Digital Color Laboratory. Not available on all models.



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HOUSE CALLS

SMART SOLUTIONS FOR KITCHENS AND BATHROOMS



An angled peninsula provides work space, undercounter storage, and seating for guests who like to gather while dinner is being prepared. Just steps inside the kitchen, an island within arm's reach of the stove and sink.

An open, modern kitchen is what Tony Herrera and his wife, Jeanne Gregory, envisioned for their contemporary-style home in Nashville, Tennessee. The cramped, traditional kitchen that came with the house was out of sync with the rest of the interior. "It was dark, dated, and starved for counter space and storage," recalls Tony. The couple, who love to cook and entertain, set out to create a kitchen that would make preparing food fun and convenient with professional-grade appliances and ample storage and work space—all with a sleek, contemporary look.

Tony, a general contractor, asked colleague and kitchen designer Kathy M. Gray to develop the plans. While staying close to the existing footprint, Gray rearranged the cabinets and counters to maximize every inch of space. "It's not the biggest kitchen in the world," says Tony, "but it's friendly and so efficient. Everything's organized around the way we cook and entertain. It gives us pleasure every single day."

Lustrous granite and stainless steel surfaces combined with sleek maple cabinetry refashion a kitchen for a contemporary home.

PHOTOGRAPHS BY LANGDON CLAY

HOUSE CALLS



WHAT THEY DID

- ① The 7-by-14-foot breakfast room was annexed to provide more usable space in the kitchen. Along the outside wall, single-light French doors replaced floor-to-ceiling windows so the homeowners could access the back courtyard.
- ② To further expand the kitchen space, a wall was removed and the washer and dryer were relocated to a former storage closet.
- ③ A 9-by-3-foot angled peninsula expands and defines the work area, houses a dishwasher and storage cabinets, and also serves as a breakfast bar. It's topped with glossy black granite.
- ④ A new 3-foot-square island placed 36 inches from the range and sink (42 inches is the norm) creates a tight but efficient work zone. It's also just steps from the fridge, microwave, and dishwasher.
- ⑤ A 6-by-2-foot butler's pantry with a second sink and dishwasher was installed in extra space where the laundry facilities had been.



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THE DETAILS

Smart design ideas and high-quality materials are the hallmarks of this function-packed kitchen.



① The stainless steel range hood has a built-in commercial-style food-warming system. On either side of the hood's metal skirt, fold-down racks hold dishes or cookware under infrared lamps mounted above. When folded up, the racks provide handy ledges. To the right of the hood, two wall-mounted open shelves look as if they're suspended from the ceiling by wires.

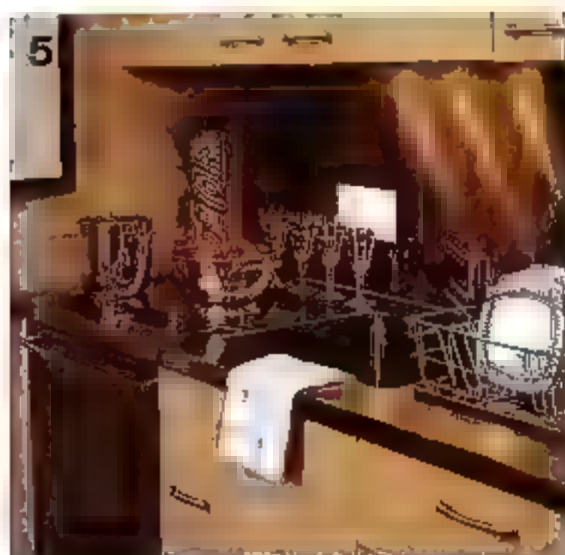
② Taking advantage of the peninsula's 42-inch height, the dishwasher was raised 6 inches off the floor so less bending is required when loading and unloading. Dishes are stacked in cabinets just to its left. The seven-bottle wine rack to the right makes clever use of an otherwise wasted sliver of space.

③ The black-painted maple island is topped with stainless steel. Large 30-inch-wide drawers on the range and peninsula sides hold cookware and linens. The open shelf stores serving dishes. Stainless steel drawer pulls and leg caps on all four sides give the custom island a finished look from every angle.

④ Glass doors over drawers impart a china-cabinet look to a storage cabinet that sits flush with the peninsula and showcases the homeowners' collection of art glass.

⑤ The butler's pantry area houses an extra prep sink, dishwasher, and storage cabinets. The integral stainless steel counter, sink, and backsplash suit the streamlined look of the kitchen and make cleanup a cinch.

For more kitchen design ideas, trends, and products, go to www.thisoldhouse.com or America Online. Keyword: This Old House and select Kitchen in the Know-how section.



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hearing them say "awesome" and, for once, agreeing: priceless

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ASK THIS OLD HOUSE



TOM SILVA
GENERAL CONTRACTOR



RICHARD TRETHEWEY
PLUMBING & HEATING EXPERT



NORM ABRAM
MASTER CARPENTER



ROGER COOK
LANDSCAPE CONTRACTOR

GETTING A GRIP

The handrail on our stairs is missing, and we'd really like to put one in for safety. The wall has wood paneling on it, so we're not sure how to find the studs. And when we do, how do we determine the correct height of the handrail and attach it securely?

HARRIET LEIBOWITZ, SAG HARBOR, N.Y.

Tom Silva replies: Any stair without a handrail is dangerous, so I'm glad you're taking action. You're also right to anchor it to the studs. If someone starts to fall, they'll put a lot of weight on a handrail, and anything less than a solid framing connection will rip right off the wall.

A stud finder might not work over paneling, so you'll have to do it the old-fashioned way—by detective work. Search for a line of tiny nail heads hidden in the panels' vertical seams. Once you find one line, measure 16 inches to the right or left. You'll probably find another set of nails in a groove, which means you've found your studs.

According to building codes, a handrail must be continuous. Its top must be no less than 34 inches above the stair's nosing and no higher than 38 inches. Heights on the low side of the range are better if there are small kids in the house. A stairway handrail also has to offer 1½ inches of clearance from the wall and be no more than 2½ inches thick, so that you can get a good grip if necessary. Those are standard code requirements; local codes may be different, so give your local building inspector a call just to make sure.

You can find metal stairway brackets at the hardware store that attach to the underside of the rails. Be sure to anchor them to every other stud using #10 steel screws at least 1½ inches long.

THE MOST EXPENSIVE MATERIALS

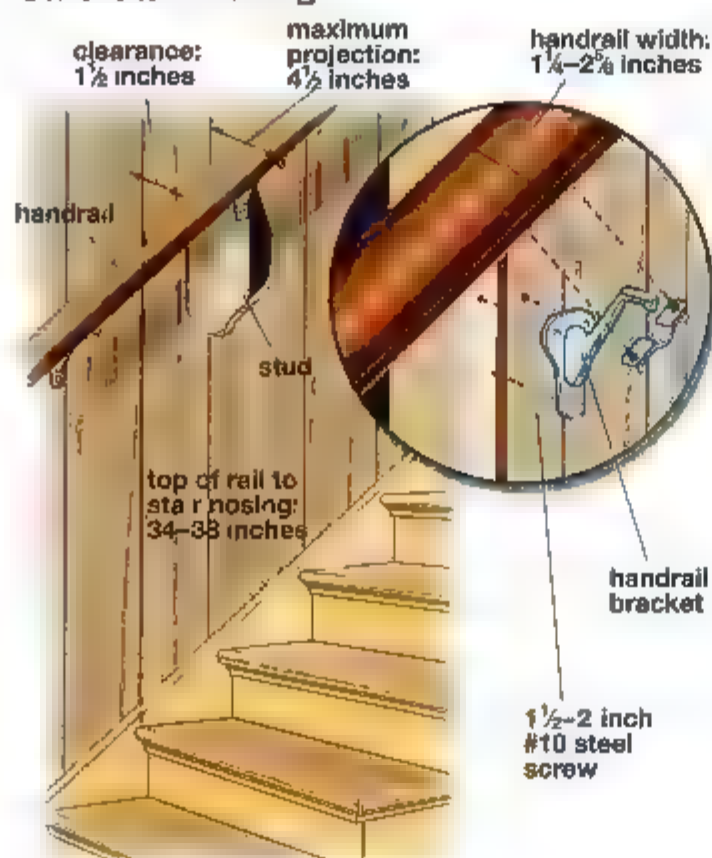
What are the most expensive materials when you build a house?

GRANT, AGE 6

Tom Silva replies: Well, many years ago I was working in a house that had a showerhead shaped like a fish head, with the water coming out of the fish's mouth. It was covered with gold and cost about \$5,000. That seems pretty expensive to me.

But the way I see it, the most expensive materials are not the ones that are the fanciest but the ones that aren't suitable for the job you want them to do. Let's say you built a house foundation using concrete that wasn't very strong. Eventually, that

Safe Stair Railing



foundation will crack and sag. What will happen then? The walls of the house will get cracks in them, the doors and windows won't close properly, the floors will squeak, the chimney might tip, and the roof might even start to leak. Think of all the money you would have to pay to fix those problems. That concrete would turn out to cost you a lot of money, don't you think?

RIDGE VENTS ON LOW-SLOPE ROOFS

I plan to reroof my early-'60s ranch house and am concerned about ventilation. The house now has

PHOTOS: KELLER & KELLER (LEFT); ILLUSTRATION: JAN WISPOLE

"I don't have time for a migraine..."



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IMITREX is for the acute treatment of migraine attacks in adults. You should not take IMITREX if you have certain types of heart disease, a history of stroke or TIA, peripheral vascular disease, Raynaud syndrome, or blood pressure that is uncontrolled. If you have risk factors for heart disease, such as high blood pressure, high cholesterol, diabetes, or are a smoker, you need to be evaluated by your doctor before taking IMITREX. Very rarely, certain people, even some without heart disease, have had serious heart-related problems. If you are pregnant, nursing, or taking medications, talk to your doctor.

See the important information on the adjacent page.

target your total migraine



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IMITREX® (sumatriptan succinate) Tablets
Patient Information about Imitrex Tablets for migraine headaches.
Generic name: sumatriptan succinate
Please read this summary of information about Imitrex before you talk to your doctor or start using Imitrex. No summary can take the place of a careful discussion between you and your doctor. Only your doctor has the medical training and the complete prescribing information necessary to determine if this medicine is right for you. Once you read this summary you should discuss with your doctor whether Imitrex is appropriate treatment for you and ask any questions you may have.

WHAT IS Imitrex?
IMITREX is the brand name of sumatriptan, a drug intended to relieve your migraine headaches but not to prevent or reduce the number of migraine headaches you experience. Imitrex should be used only to treat an actual migraine attack. Imitrex can be obtained only with a doctor's prescription and should be used by adults only after discussing the choice with your doctor, taking into account your individual preferences and medical circumstances.

HOW DOES Imitrex WORK?
How Imitrex works is not completely understood. Imitrex is a 5-HT₁ agonist that seems to relieve migraine headaches by acting like a brain chemical called 5-hydroxytryptamine, causing some blood vessels in the head that are swollen during a migraine to constrict (that is, to become smaller, which helps relieve migraine headache).

IMPORTANT SAFETY CONSIDERATIONS:
Although the vast majority of patients who have taken Imitrex have not experienced any significant side effects, some patients have experienced serious heart problems and, rarely, experiencing the seriousness of Imitrex use worldwide, deaths have been reported. In all but a few instances, however, serious problems occurred in patients with known heart disease and it was not clear whether Imitrex was a contributing factor in these deaths.

Serious events relating to the blood vessels in the head (eg, brain hemorrhage, stroke) have been reported in patients who were taking Imitrex. Some of these have resulted in death. However, the relationship of Imitrex to these events is uncertain. In a number of these cases it appears possible that patients were not experiencing a migraine but rather an event due to blood vessel disease in the head. Imitrex was given in the incorrect belief that the person may have been suffering a migraine. Therefore, you should not take Imitrex if the headache you are experiencing is different from your usual migraine attacks. People who suffer from migraines may be at increased risk of certain blood vessel events in the brain (eg, hemorrhage, stroke, or transient ischemic attack).

Ask your doctor about these and additional safety considerations.

WHO SHOULD NOT TAKE Imitrex?
Some types of migraine headaches should not be treated with Imitrex, and some patients should not take Imitrex because of an increased risk of serious side effects.

- If you have had a heart attack, stroke, transient ischemic attacks, peripheral vascular disease (including ischemic bowel disease or Raynaud's syndrome), or any sort of heart disease or symptoms that are associated with constriction of blood vessels, such as ischemic heart disease, angina, or coronary artery vasospasm, you should not use Imitrex.
- If you have uncontrolled high blood pressure, you should not use Imitrex.
- If you are taking certain drugs for depression, talk with your doctor. Imitrex should not be used if you take or have taken within the last 2 weeks monoamine oxidase inhibitors (MAOIs).
- Your doctor will discuss with you the type of migraine headaches you have. If you have hemiplegic or basilar migraines, you should not take Imitrex. Imitrex should be used only in patients who have been diagnosed by a physician as having migraine with or without aura.
- Tell your doctor about any other medication you are taking. If you are currently taking any migraine medications that include ergot alkaloids, such as methysergide or dihydroergotamine, or other 5-HT₁ agonists, do not take Imitrex within 24 hours of taking these medications.
- Do not take Imitrex if you are allergic to sumatriptan or any of the ingredients in Imitrex.
- If you have severe liver disease, you should not use Imitrex.

WHAT MEDICAL PROBLEMS OR CONDITIONS SHOULD I DISCUSS WITH MY DOCTOR?

- If you have risk factors for heart problems, you should tell your doctor. Your doctor should examine you for heart disease to see whether Imitrex is appropriate for you. Risk factors include high blood pressure, high cholesterol, obesity, diabetes, and smoking. Other patients with risk factors for heart disease are women who are past menopause (whether natural menopause or menopause resulting from surgery), men over 40 years old, or patients with a family history of heart disease. If you have risk factors and your evaluation for heart disease is satisfactory, your doctor may ask you to take the first dose of Imitrex in the doctor's office.
- Tell your doctor if you have chest pain, shortness of breath, or irregular heart beats.
- Tell your doctor if you are taking selective serotonin reuptake inhibitors (SSRIs).
- Tell your doctor if you have a history of epilepsy or seizures.
- Tell your doctor if you have liver or kidney problems.
- Tell your doctor if you have ever had to stop taking any medication because of an allergy or other problem.

USE OF Imitrex DURING PREGNANCY AND BREAST-FEEDING
Do not take Imitrex if you are pregnant. Think you may be pregnant, are trying to become pregnant, are not using adequate birth control methods, or are breast-feeding, unless you have discussed this with your doctor.

HOW TO USE Imitrex TABLETS
For adults, the usual dose is a single tablet taken whole with fluids. A second tablet may be taken if your symptoms of migraine come back or if you have partial response to the first dose, but no sooner than 2 hours after taking the first tablet. For a given attack, if you have no response to the first tablet, do not take a second tablet without first consulting with your doctor. Do not take more than a total of 200 mg of Imitrex Tablets in any 24-hour period.

The safety of treating an average of more than four headaches in a 30-day period has not been established.

WHAT ARE THE POSSIBLE SIDE EFFECTS OF USING Imitrex?
Do not rely on this summary alone for information about side effects. Your doctor can discuss with you a more complete list of side effects that may be relevant to you. The most frequently seen side effects are tingling and warmth sensations with Imitrex tablets.

- Some patients feel pain or tightness in the chest or throat when using Imitrex. If this happens to you, discuss it with your doctor before taking any more Imitrex. If the pain is severe or does not go away, call your doctor immediately.
- If you have sudden or severe abdominal pain after taking Imitrex, call your doctor immediately.
- Shortness of breath, weakness, heart throbbing, swelling of the eyelids, face or lips, or a skin rash (small bumps, or hives) happens rarely, but if they happen to you, tell your doctor immediately. Do not take any more Imitrex unless your doctor tells you to.
- Some patients have feelings of dizziness, heat, flushing (redness of the face during a short time), heaviness, or a feeling of pressure after taking Imitrex. A few patients may feel drowsy, dizzy, tired, sick. Tell your doctor about these effects at your next visit.
- If you feel unwell in any other way to have any problem that you do not understand after taking Imitrex, tell your doctor immediately.

WHAT SHOULD I DO IF I TAKE AN OVERDOSE?
If you have taken more medication than you have been told, contact either your doctor, a hospital emergency department, or the nearest poison control center immediately.

HOW SHOULD I STORE Imitrex?
Be sure to keep your medicine in an area that cannot be reached by children. It may be harmful to children.

IMITREX Tablets should be stored at room temperature and do not require refrigeration. Do not store above 86°F (30°C) or below 36°F (2°C). Store away from heat and light. If your medication has expired (the expiration date is printed on the label) throw it away as instructed. If your doctor decides to stop your treatment with Imitrex, do not save any leftover medication unless your doctor tells you to do so. Throw it away as instructed.

ASK THIS OLD HOUSE

three gable vents, with soffit vents in every rafter bay front and back. When I reroof, I want to add a ridge vent, but my roof only has a 4.12 slope. Will that be a problem?

JOHN MCLENNAN, TOLEDO, OHIO

Tom Silva replies: Ridge vents are great, but I'd avoid them in this case. Your roof has a fairly low pitch, and snow (or rain) could blow into the attic through the vent. So unless you've noticed signs of ventilation problems, such as ice damming in the winter or roof shingles bubbling and curling from overheating in the summer, I think you should stay with your existing arrangement.

By the way, 4.12 is about the minimum slope suitable for asphalt or fiber glass shingles. To improve the weather protection, I'd reduce the maximum exposure of the shingles from 5 to 4½ inches, and I'd use six nails per shingle instead of the standard four.

HOW TO KEEP AN AIR CLEANER CLEAN

What procedure do you recommend for cleaning the inside of an electronic air cleaner? I've seen all sorts of recommendations, and a lot of them seem contradictory.

JAMES HANRAHAN, PAULISPPANY, N.J.

Richard Trethewey replies: You can't go wrong by following the cleaning instructions spelled out in the owner's manual for your system. If you no longer have the manual, check the manufacturer's Web site for cleaning instructions or call them to get a replacement manual. Generally, though, you'll see variations on one or more of the following methods.

Option 1 Remove the air cleaner's "cells"—they contain the electrostatic plates that collect airborne dirt—and run them through your dishwasher, if they fit. Just don't use the heated-dry cycle, which can bake contaminants on the plates.

Option 2 Soak the cells in a large tub of hot, soapy water and rinse them with hot water, then soak them and rinse them again.



The plates, or "cells," of an electrostatic air cleaner require periodic careful cleaning.

Option 3 Take your dirty cells to a do-it-yourself car wash with hand sprayers. There you can clean the cells just like you'd clean your car: soapy spray first, then a thorough rinsing. Just be sure to keep the wand at least two feet from the cells so you don't damage anything with the high-pressure spray.

Whichever option you choose, you'll also have to wipe off both

sides of each collector plate using a damp rag when you're done. But if the best you can manage is to blast the cells with a garden hose now and then, that'll have to do. Even a little cleaning is better than no cleaning at all. And if anyone out there has discovered an easier washing method, let me know!

REFRESHING CEDAR CLOSETS

My house has a walk-in cedar closet. Over the years the cedar scent has faded away, and I'd love to bring it back. What can I do?

NANCY MAYHEW, BRATTLEBORO, VT

Tom Silva replies: Only Eastern red cedar (sometimes called aromatic red cedar) has that distinctive, nontoxic scent, which has long been regarded as an effective insect repellent.

Lightly sanding the wood with fine-grit sandpaper ought to renew the scent. Just

ILLUSTRATION: TROY DOOLITTLE/TOP DOG ILLUSTRATION

ASK THIS OLD HOUSE

be aware that some people are bothered by cedar dust, which can cause temporary dermatitis or respiratory problems. If you're sensitive to cedar, wear a dust mask and keep your skin covered while sanding. If sanding doesn't have enough effect, rub cedar oil into the wood. The oil (available from Giles & Kendall, 800-225-6738) will replenish the wood's smell and enhance its appearance, at least for a while.

INSTALLING A WINDOW BOX

I'd like to install window boxes below my windows, but I don't know how to go about it. The house has brick-veneer siding and the windowsills are concrete.

DOLORES CHESTER, EVERGREEN PARK, ILL.

Tom Silva replies: Sounds like a great idea, but leave the windowsills alone. Any holes you drilled there would eventually become an entry point for water.

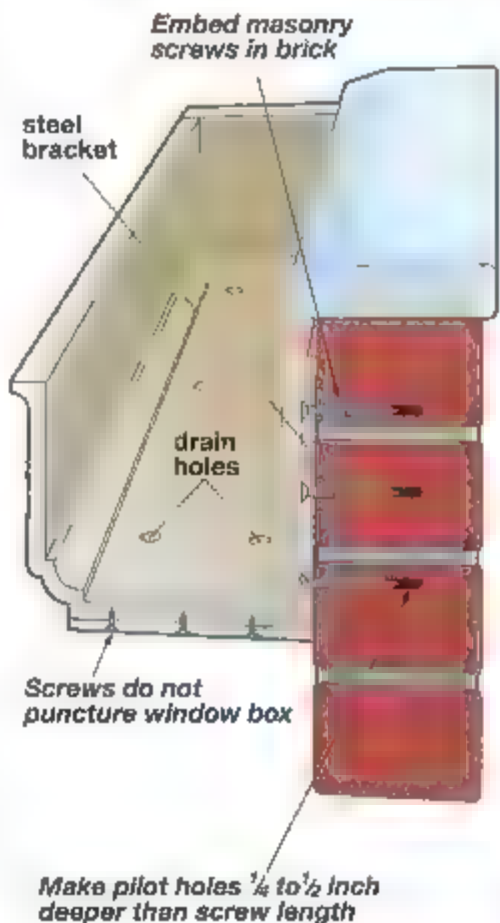
The most straightforward way to support the box is with sturdy L-shape brackets made out of galvanized or stainless steel. Position them so that one leg of the L is against the wall and hidden behind the planter. This will create a small gap between the wall and the planter, which will prevent moisture from

being trapped back there. You can also support the window box with decorative wood or metal knee brackets fastened to the wall below the box. Either way, make sure the brackets are strong enough to bear the weight of a box loaded with plants and soggy soil. For a 3-foot box, I'd probably use three brackets to be safe.

Using a masonry bit, drill a pilot hole into the brick—not the mortar—and fasten the brackets in place using 1½-inch-long masonry screws with the largest diameter shank that will fit through the bracket holes. (Expansion-type masonry anchors can fracture brick.) Follow the manufacturer's instructions exactly regarding the size and depth of the pilot hole. If the hole is too large, the screw won't hold too small and you'll never drive the screw in. I always drill the pilot holes about ¼ to ½ inch deeper than the length of the screws and make sure to blow out any dust before driving the screws home.

For the window boxes themselves, choose a durable, rot-resistant species like redwood, cypress, or cedar, and drill holes in the bottom so water can drain. And when you fasten the box to its brackets, use short galvanized or stainless screws—ones that don't go all the way through the bottom of the box.

Window Box for a Brick Wall



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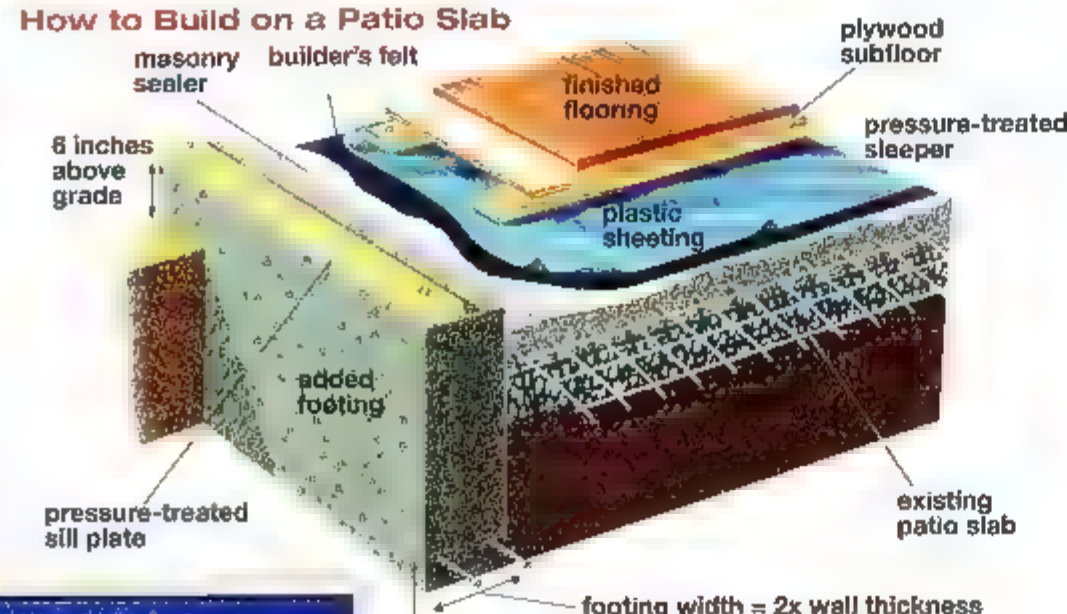
BUILDING OVER A PATIO SLAB

I am planning to enclose my concrete, exposed aggregate patio and turn it into a finished part of my house. I would like to use some tongue-and-groove oak I salvaged as the flooring. How should I go about it?

MIKE ERIKANO, JUPITER, FLA.

Tom Silva replies: I see several possible problems that might prevent you from taking on this project at all. First, the patio slab may not be safe to build on. Just because it's concrete, you can't assume that it will provide a suitable foundation for framed walls. Building codes require a reinforced floor slab at least 3½ inches thick. Plus, it has to have poured-concrete footings beneath the perimeter to hold the exterior walls that will be built. These footings would have to extend

How to Build on a Patio Slab



footing depth:
4-6 inches below frost line
(16-18 inches below grade min.)

at least 16 inches below grade even in a mild climate like yours. The codes may also specify how far the wall framing must be from grade—that's partly to provide termite protection, a real concern in your part of the country. I think you should first invite your local building inspector out for a visit.

If the inspector okayes the slab, here's what you'll have to do. First, seal it against moisture migrating from below. Use a pump sprayer or brush to coat the slab with a waterproofing masonry sealer following the instructions on the best way to clean and prepare the surface. Then cover the slab with a layer of 30-lb. roofing felt followed by a layer of 6-mil plastic sheeting. Lap the seams about 6 inches or so. Next, lay pressure-treated sleepers face-down on the plastic, spacing them no more than 16 inches on center (12 inches on center is better). If the patio slopes away from the house slightly, as it should, you'll have to shim up the sleepers so the finish floor will be level.

Anchor the sleepers with countersunk masonry screws or spring spikes. You'll have to drill pilot holes for either type of fastener. Because exposed aggregate can be tough, use a hammer drill and have some extra masonry bits on hand.

Once the sleepers are set, install a ¾-inch tongue-and-groove plywood subfloor. Now you can lay your oak flooring.

DENTED DOOR

How would you go about repairing a small dent in a steel entry door?

VINCENT COYNE, FRASER, MICH.

Tom Silva replies: I'd do it the same way I repair a dented fender—with a two-part auto-body filler such as Bondo. First, sand the dent and 2 to 3 inches of the surrounding area using 40-grit paper. When you're down to

raw metal, clean it with denatured alcohol. Now mix up the filler and apply a thin layer with a plastic spreader. Once it cures, apply at least one more layer slightly higher than the door surface. When that layer cures—in about 25 minutes—use 80-grit sandpaper to make the repair flush. Then sand the patch and feather the edges with a series of progressively finer grits, up to about 220. After 90 minutes prime the area, then paint it. Sanding this filler releases fine dust, so be sure to wear a dust mask and take any other safety precautions called for on the label.

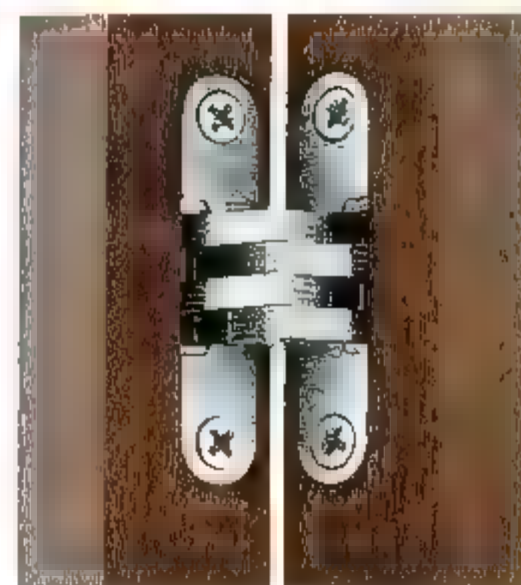
SECRET DOOR

Now that I'm almost finished installing the rail and stile paneling in my living room, I'd like to build a hidden door to cover the wood storage bin next to the fireplace. But I'm stumped on how to design it so no hardware is visible. Any suggestions you have would be greatly appreciated.

TERRY HOBBS, WILMINGTON, DEL.

Norm Abram replies: Make the door the size you want and fit it with concealed Soss hinges that slide in and out of a mortise and a touch latch, the kind that opens with a slight push (available through Woodworker's Supply, 800-645-9292). With careful workmanship, the door will be nearly impossible to find.

WHERE TO FIND IT — SEE DIRECTORY — PAGE 129



For hardware that's invisible when a door is closed, use Soss hinges (LEFT) and a touch latch (ABOVE).

To send a question to ASK THIS OLD HOUSE, go to www.thisoldhouse.com/askth or write to:

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This Old House magazine
1185 Avenue of the Americas, 27th floor
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Include a complete address and daytime phone number. Published questions will be edited for clarity and length and may be used in other media. We regret that due to the volume of mail received, we're not able to reply to unpublished questions.

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B Y D E S I G N



Today's copper craftsmen are turning out some extraordinary architectural details.

Over-the-Top Copper

Copper can be fashioned into fanciful yet functional exterior elements, including (clockwise from top): a half-round downspout leaderhead, a gargoyle downspout elbow, fish-scale roof shingles, a twisted downspout, a lion's-head faceplate for a wall fountain, and a boxed downspout leaderhead.

BY RYAN ROBBINS

Copper has been part of American architecture since the beginning. Federal-style homes were often topped by batten-seamed copper roofs. Victorian residences of the late 1800s featured fancy copper ridge cresting and turrets roofed with copper fish-scale shingles. Today, a handful of master coppersmiths are continuing this tradition, banging out time-tested standards and hammering out some new riffs as well. "Copper, by its nature, invites you to improvise and come up with new designs," says Larry Stearns, owner of Vulcan Supply Corp., in Westford, Vermont.



Copper is the material of choice for fine exterior details because it's so easy to work and so long-lasting. "The metal is malleable enough to shape at room temperature," says Stearns. Copper that has been annealed—heated to the point just before it turns red, then cooled—is more malleable still, it can then be coaxed more easily into complex shapes. (Copper hardens as it's hammered and shaped, so a piece may need to be annealed several times.) Flat disks of copper can even be spun and shaped, much like clay on a potter's wheel, into, say, a tubular finial for a Queen Anne house.

When it comes to durability, copper bends but doesn't break. Nor does copper rust. Rather, it ages. And that's behind the third reason copper has remained so popular all these years: its unique beauty.

Certainly some of copper's appeal lies in its ever-changing appearance as it weathers. "If you want to see the exact same sunset every day, copper isn't for you" is how David Hunt, manager of architectural services for Revere Copper Products, puts it. Just-worked copper loses its new penny shine in a matter of weeks, turning a rich russet color. Over the course of many years—anywhere from 5 to 30, depending on the acids and salts in the air—the initially lustrous metal takes on a distinctive blue-green patina. Homeowners unwilling to wait the decade or two it can take for copper to turn green naturally can order most copperwork chemically prepatinated. (Do-it-yourself patina mixes are also available.)

Fashioning fine copper ornaments is skilled, painstaking work. A single craftsman can spend a couple of weeks on a simple 6-foot finial. And the work doesn't come cheap. For custom installations, Stearns's Vulcan Supply Corp., for example, charges \$100 an hour for design work and \$65 an hour for labor, plus materials. Still, most homeowners who commission a special piece consider the effort and expense well worth it. After all, as the centuries have proven, copper is here to stay.

For more on copper products
Go to www.thisoldhouse.com or
America Online Keyword: This Old House and type "copperwork" in the search box.

PHOTOS: JEFF BAIRD

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TOP: Copper can be sculpted into detailed forms, such as this head of a winged lion from Larry Stearns's Vulcan Supply Corp. To create it, a single sheet of copper was first annealed to increase its malleability, then hammered into rough shape and pressed between positive and negative molds. The nearly finished piece, which will loom over the

Boston Public Library, is fine-tuned by hand with hammers and blunt chisels. **BOTTOM LEFT:** Vulcan Supply's Alistair Parker solders a "creamie cluster" to the top of a dart finial for a roof. The finished piece (**BOTTOM RIGHT**) is a replacement for a deteriorating galvanized-steel-and-zinc spire (visible in the background) that dates from the early 1800s.

COPPER ROOFTOPS AND ORNAMENTS

While some designs by Larry Stearns, of Vulcan Supply Corp., come straight out of his imagination, many are inspired by historic motifs. For instance, one of his stock finials depicts a pineapple (below center), which derives from the old sailors' custom of placing the tropical fruit on a house's fence post to announce a ship's safe return and to welcome visitors.



ONION DOME

Designed for a home in upstate New York, this 12-foot-tall roof is sheathed in over 200 diamond-shaped copper shingles.



PAGODA ROOF

This two-tiered roof made of copper shingles, was a custom commission for a Petaluma, California, residence.



SPIRAL FINIAL

A half-dozen lengths of copper tubing twisted in unison form the shaft of this 3-foot-tall ornament.



PINEAPPLE FINIAL

The body of this 6-foot-tall ornament is composed of nearly 100 variously sized copper pyramids soldered to an egg-shaped frame.



GEOMETRIC FINIAL

This 3-foot-tall spire looks seamless because it's soldered from the inside.

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Weathering the Storm

A good storm window does the job of a replacement window, for a fraction of the cost

BY THOMAS J. BAKER

It's a familiar story. Your old windows leak copious amounts of air, which makes for chilly drafts in the winter and higher cooling costs in the summer. Leaky windows may even be hurting your house by allowing windblown rain to seep into the structure.

Time for new windows? Not necessarily. High-quality storm windows may be all you need to banish leaks, at a fraction of the cost of replacement windows. "A good storm stops air infiltration about as well as most replacement windows, and the up-front costs are much lower," says *This Old House* general contractor Tom Silva. "It's like putting money in your pocket."

The typical aluminum "triple-track"—so called because it holds two glass sash and one screen that slide up and down on separate tracks—won't win any beauty contests, but it can also play an important preservation role by protecting valued old-house windows from the elements.

On the following pages, Tom demonstrates how to measure for and install an aluminum exterior storm over a double-hung window. (Outward-swinging casement or awning windows require interior storms.) Tom has the window up in less than 10 minutes, but while installation is simple, he says, there are still ways to mess it up. "The most common mistake people make is to caulk the storm's bottom edge, along the windowsill," he says. That can trap water that leaks in or condenses on the inside of the glass. "You want to give water a chance to escape before it causes any damage."

Tom Silva tips a new storm window into place. The storm's sturdy, weathertight construction will help preserve the house's old windows and reduce energy bills.

PHOTOGRAPHS BY KELLER & KELLER

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VIAGRA is indicated for the treatment of erectile dysfunction.

Remember that no medicine is for everyone. If you use nitrate drugs (often used to control chest pain (also known as angina), don't take VIAGRA. This combination could cause your blood pressure to drop to an unsafe or life-threatening level.

Discuss your general health status with your doctor to ensure that you are healthy enough to engage in sexual activity. If you experience chest pain, nausea, or any other discomforts during sex or an erection that lasts longer than 4 hours, seek immediate medical help. The most common side effects of VIAGRA are headache, facial flushing, and upset stomach. Less commonly, bluish vision, blurred vision, or sensitivity to light may briefly occur.

Please see patient summary of information for VIAGRA (25-mg, 50-mg, 100-mg) tablets on the following page.

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PATIENT SUMMARY OF INFORMATION ABOUT

VIAGRA

(sildenafil citrate) tablets

This summary contains important information about VIAGRA. It is not meant to take the place of your doctor's instructions. Read this information carefully before you start taking VIAGRA. Ask your doctor or pharmacist if you do not understand any of this information or if you want to know more about VIAGRA.

This medicine can help many men when it is used as prescribed by their doctor. However, VIAGRA is not for everyone. It is intended for use only by men who have a condition called erectile dysfunction. VIAGRA must never be used by men who are taking medicines that contain nitrates of any kind, at any time. This includes nitroglycerin. If you take VIAGRA with any nitrate medicine your blood pressure could suddenly drop to an unsafe or life threatening level.

What is VIAGRA?

VIAGRA is a pill used to treat men with dysfunction (impotence) in men. It can help many men who have erectile dysfunction get and keep an erection when they become sexually excited (aroused).

You will not get an erection just by taking this medicine. VIAGRA helps a man with erectile dysfunction get an erection only when he is sexually excited.

How Sex Affects the Body

When a man is sexually excited, the penis rapidly fills with more blood than when the penis is relaxed. This is called an erection. After the blood is no longer flowing, the extra blood flows out of the penis back into the body. The erection goes away if a erection lasts for a long time (more than 4 hours). A man who has an erection that lasts more than 4 hours should call a doctor immediately if you ever have a prolonged erection that lasts more than 4 hours.

Some conditions and medicines interfere with this natural erection process. The penis cannot fill with enough blood. The man cannot have an erection. This is called erectile dysfunction. It becomes a frequent problem.

During sex, your heart works harder. Therefore, sexual activity may not be safe for people who have heart problems. Before you start any treatment for erectile dysfunction, ask your doctor if your heart is healthy enough to handle the extra strain of having sex. If you have heart problems, chest pain, or dizziness during sex, stop having sex and immediately tell your doctor you have had this problem.

How VIAGRA Works

VIAGRA enables many men with erectile dysfunction to respond to sexual stimulation. When a man is sexually excited, VIAGRA helps the penis fill with enough blood to cause an erection. After sex is over, the erection goes away.

VIAGRA is Not for Everyone

As noted above, How Sex Affects the Body, ask your doctor if your heart is healthy enough for sexual activity.

If you take any medicines that contain nitrates—either regularly or as needed—you should never take VIAGRA. If you take VIAGRA with any nitrates, the blood pressure could suddenly drop to an unsafe level. You could get dizzy, faint, or have a heart attack or stroke. Nitrates are found in many prescription medicines that are used to treat angina (chest pain due to heart disease) such as:

- nitroglycerin (sprays, ointments, skin patches or pastes, and tablets that are swallowed or dissolved in the mouth)
- isorbide dinitrate and isosorbide mononitrate (tablets that are swallowed, chewed, or dissolved in the mouth)

Nitrates are also found in recreational drugs, such as amyl nitrate or nitrite ("poppers"). If you are not sure if any of your medicines contain nitrates, or if you do not understand what nitrates are, ask your doctor or pharmacist. VIAGRA is only for patients with erectile dysfunction. VIAGRA is not for women. Do not use VIAGRA if you are pregnant. Do not use VIAGRA if you are taking any other medicines. VIAGRA must be used only under a doctor's supervision.

What VIAGRA Does Not Do

- VIAGRA does not cure erectile dysfunction. It is a treatment for erectile dysfunction.
- VIAGRA does not protect you or your partner from getting sexually transmitted diseases, including HIV—the virus that causes AIDS.
- VIAGRA is not a hormone or an aphrodisiac.

What To Tell Your Doctor Before You Begin VIAGRA

Only your doctor can decide if VIAGRA is right for you. VIAGRA can cause many temporary lowering of your blood pressure. You will need to have a thorough medical exam to evaluate your erectile dysfunction and to find out if you can safely use VIAGRA alone or with your other medicines. Your doctor should determine if your heart is healthy enough to handle the extra strain of having sex.

Be sure to tell your doctor if you:

- have ever had any heart problems (e.g., angina, chest pain, heart failure, irregular heart beats, heart attack or narrowing of the arteries, etc.)
- have ever had a stroke
- have low or high blood pressure
- have a condition called retinitis pigmentosa
- have ever had any kidney problems

VIAGRA
(sildenafil citrate) tablets

- have ever had any liver problems
- have ever had any blood problems, including sickle cell anemia or leukemia
- are allergic to sildenafil or any of the other ingredients of VIAGRA tablets
- have a deformed penis, Peyronie's disease, or ever had an erection that lasted more than 4 hours
- have a history of any types of bleeding problems
- are taking any other medicines

VIAGRA and Other Medicines

Some medicines can change the way VIAGRA works. Tell your doctor about any medicines you are taking. Do not start or stop taking any medicines before checking with your doctor or pharmacist. This includes prescription and nonprescription medicines or remedies.

- Remember, VIAGRA should never be used with medicines that contain nitrates (see VIAGRA is Not for Everyone).
- If you are taking alpha-blocker therapy for the treatment of high blood pressure or prostate problems, you should not take a dose of greater than 25 mg of VIAGRA at the same time (within 4 hours) as you take your dose of alpha-blocker.
- If you are taking a prostate inhibitor, your dose may be adjusted (please see Finding the Right Dose for You).
- VIAGRA should not be used with any other medical treatments that cause erection. These treatments include pills, medicines, that are injected or inserted into the penis, implants, or vacuum pumps.

Finding the Right Dose for You

VIAGRA comes in different doses: 25 mg, 50 mg, and 100 mg. If you do not get the results you desire, talk with your doctor. You and your doctor can determine the dose that works best for you.

- Do not take more VIAGRA than your doctor prescribes.
- If you think you need a larger dose of VIAGRA, check with your doctor.
- VIAGRA should not be taken more than once a day.

If you are older than age 65, or have serious liver or kidney problems, your doctor may start you at the lowest dose (25 mg) of VIAGRA. If you are taking prostate medicines, such as for the treatment of BPH, your doctor may recommend a 25 mg dose and may limit you to a maximum single dose of 25 mg of VIAGRA in a 48-hour period. If you are taking alpha-blocker therapy, you should not take a dose of greater than 25 mg of VIAGRA at the same time (within 4 hours) as your dose of alpha-blocker.

How To Take VIAGRA

Take VIAGRA about one hour before you plan to have sex (beginning at about 30 minutes and for up to 4 hours). VIAGRA can help you get an erection if you are sexually excited. If you take VIAGRA after a high-fat meal (such as a dinner or lunch), the medicine may not work as well. Do not take VIAGRA on an empty stomach. You will not get an erection just by taking the pill.

Possible Side Effects

All medicines VIAGRA can cause some side effects. These effects are usually mild to moderate and usually don't last longer than a few hours. Some of these side effects can be more serious if you have certain conditions. The most common side effects of VIAGRA are headache, flushing of the face, and upset stomach. The most common side effects that may occur are temporary changes in vision, such as trouble telling the difference between blue and green colors, or having a blue tinge to them, eyes seeing more sensitivity to light, or blurred vision.

In rare instances, men have reported an erection that lasts many hours. You should call a doctor immediately if you ever have an erection that lasts more than 4 hours. If you have any other serious problems or if you have any other side effects, call your doctor. Do not use VIAGRA if you are taking any other medicines. VIAGRA must be used only under a doctor's supervision.

Heart attack, stroke, irregular heart beats, and death have been reported rarely in men using VIAGRA. Also, but not all, of these men had heart problems before taking the medicine. It is not possible to determine whether these events were directly related to VIAGRA.

VIAGRA may cause other side effects besides those listed on this sheet. If you want more information or develop any side effects or symptoms you are concerned about, call your doctor.

Accidental Overdose

In case of accidental overdose, call your doctor right away.

Storing VIAGRA

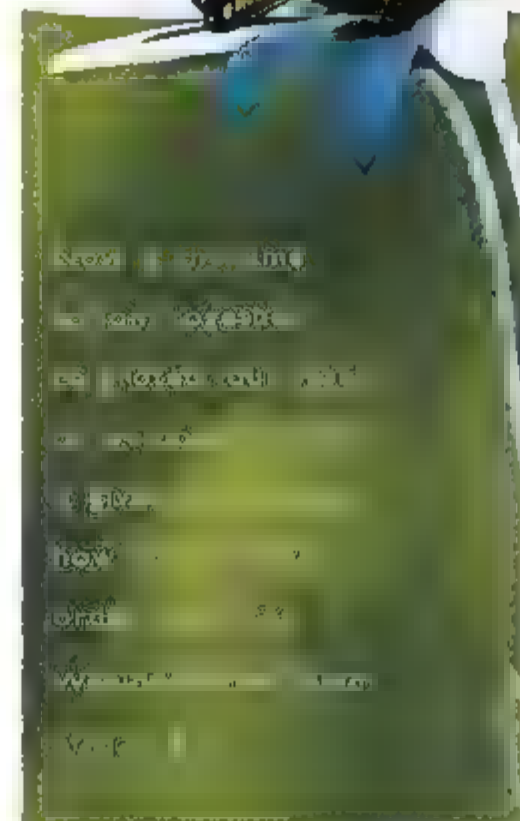
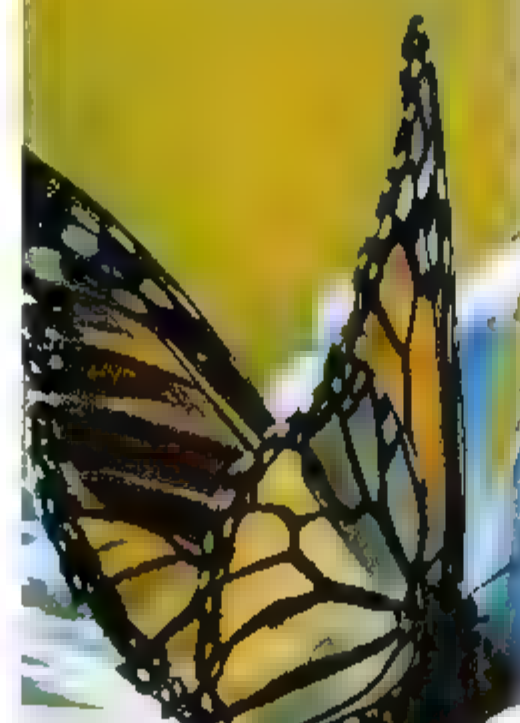
Keep VIAGRA out of the reach of children. Keep VIAGRA in its original container. Store at 20°C (68°F); excursions permitted to 15°-30°C (59°-86°F) (see USP Controlled Room Temperature).

For More Information on VIAGRA

VIAGRA is a prescription medicine used to treat erectile dysfunction. Only your doctor can decide if it is right for you. This sheet is only a summary of what you need to know about VIAGRA. Talk with your doctor or pharmacist if you have any questions about VIAGRA. Call 1-888-4VIAGRA or visit www.viagra.com for more information.

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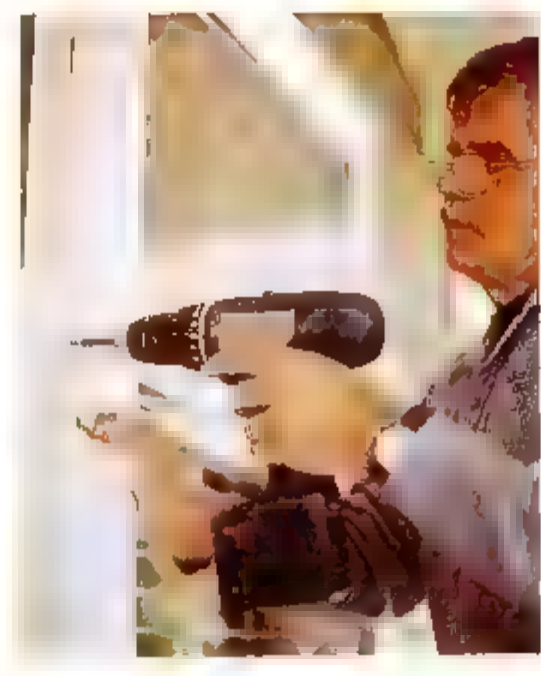
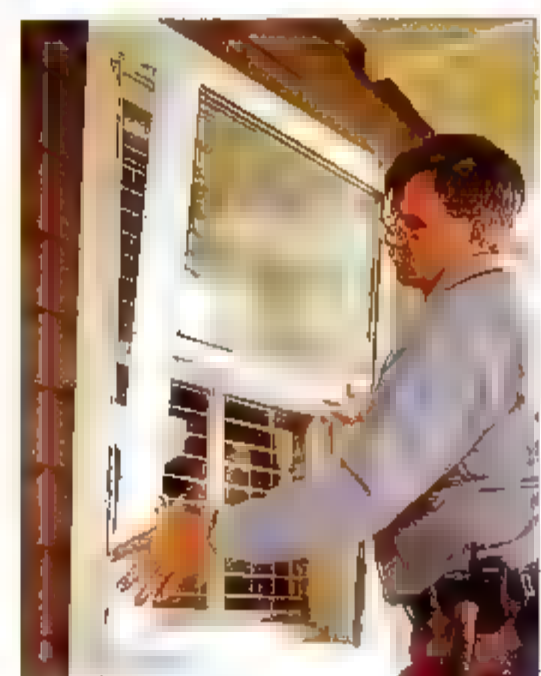
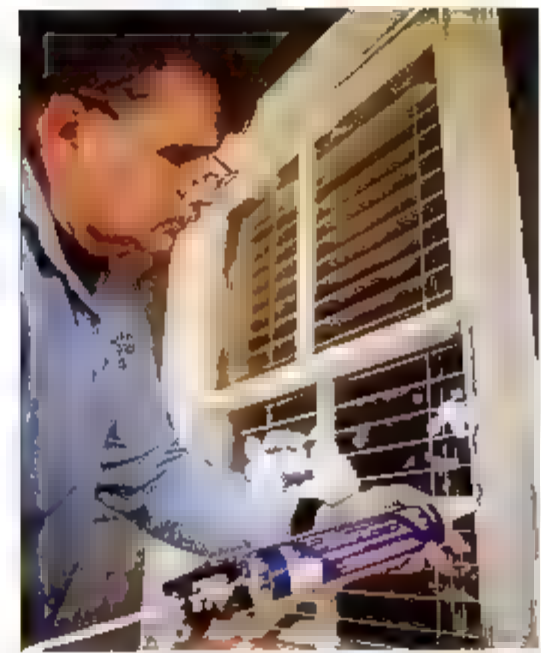
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Installing a Storm Window



1. Double-check the storm window's fit (see "Ensuring a Proper Fit," right) by centering it in the opening and making sure all the screw holes in the fins land on solid wood. Lay a fat bead of butyl or elastomeric caulk on the casing where the storm's fins will be attached. (Do not use silicone, which makes future repairs or replacement more difficult.) Do not caulk the sill.

2. Tip the storm into place and center it from side to side in the opening. Then push it up until its stop hits the bottom edge of the head casing. Drop down about 1/8 inch, so the casing has room to expand with seasonal changes in humidity. Drive the first screw into place at the top fin's center hole.

3. Center the storm's bottom edge and drive two screws into the lowest holes on the side fins, but do not tighten them yet. Drive and tighten the remaining screws around the perimeter. Slide the sash up and down; if they catch, rub, or jam, it's a sign that the frame isn't square. Loosen the side screws, adjust the frame slightly to one side or the other, and try sliding the sash again.



Ensuring a Proper Fit

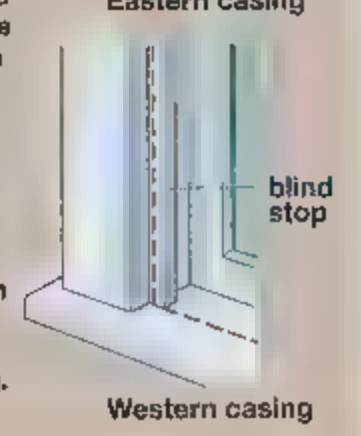
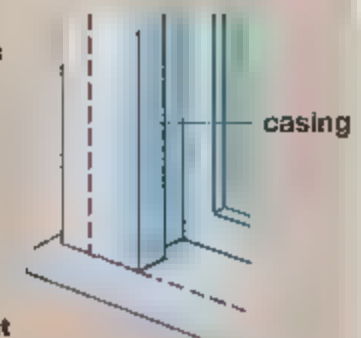
First, determine how your storm window will be mounted to the main window. If your main window has a "Western" casing, the storm will be attached to a recessed 5/8-inch blind stop within the window opening. "Eastern" casings have no such stop; the storm overlaps and attaches to the casing itself.

Next, measure the windows. Find the horizontal distances between the inside edges of the window casing at the top, middle, and bottom of the window. Then measure the vertical distance from the bottom outside edge of the head casing to the sill. Finally, check window sash height. If the top sash is shorter than the bottom ones (called an oriel window), order your storm sash to match those dimensions and preserve the window's original appearance.

FINDING THE RIGHT SIZE

For an Eastern-style casing, the storm window should be at least 1 1/4 inches wider than the opening's maximum width. The height should be about 1/2 inch taller than the window opening, but no less than 1/2 inch.

For a Western-style casing, the storm's width and height can be up to 1/4 inch less than the opening's smallest measurements. A smaller gap than 1/4 inch is acceptable, as long as the storm's fins do not hit the inside edges of the casing.



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IMPALA  WE'LL BE THERE.

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Installing a Storm Window (cont'd)



4. Place a straight-tip screwdriver or putty knife at the bend in the bottom sill extender at one side of the storm. Use a hammer to gently tap the extender until it rests against the sill. Repeat on the opposite end.



5. On one side of the storm, drive a screw at an angle into the sill next to the extender so that the screw's head traps the extender's lip. Repeat on the extender's opposite side. Tighten the bottommost screws on the side fins.



6. With the storm secured, raise and lower all the sash one more time to make sure they are operating smoothly. Maintenance on metal storms is minimal. Just wash the glass periodically and make sure the weep holes in the bottom of the frame aren't clogged.

For a rich library of upkeep information Go to www.thisoldhouse.com or America Online Keyword: **This Old House** and select "Repair & Maintenance" in the Know-how section.

What to Look for in a Storm Window

When Tom Silva shops for storms, he looks for the following indicators of quality because they translate into better performance, greater strength, and long-term durability. "Sure, you can buy a cheap storm window, but why bother?" he asks. "You just end up paying for it later when it leaks, rattles, or doesn't operate smoothly." The window he's shown installing here costs about \$160.

STAINLESS STEEL SCREWS: Aluminum screws are easily stripped. Mild steel screws rust.

PREPUNCHED SCREW HOLES: Makes installation quicker and easier.

LOW AIR-INFILTRATION RATING: The best storms let in only .04 cubic feet of air per minute (cfm) in a 25-mph wind.

NO-GAP WEATHERSTRIPPING: The entire perimeter of the closed sash should be sealed.

BAKED ENAMEL FINISH: Holds up better than unpainted aluminum, reducing maintenance and allowing easier operation.

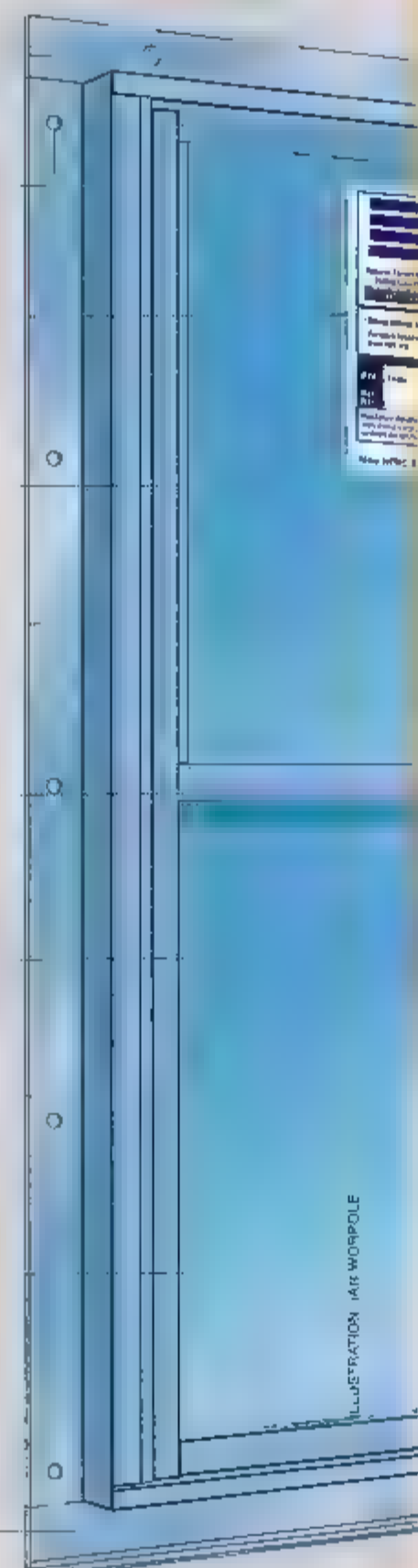
TIE BAR: This horizontal stiffener makes for a more rigid assembly. A necessity for any unit over 36 inches wide and 72 inches tall.

DOUBLE-STRENGTH GLASS: The 1/8-inch-thick panes are more resistant to breaking.

THICK-GAUGE ALUMINUM: Thinner metal (less than .050 inch) means the window will not last as long or perform as well.

LOW-E COATING: Significantly enhances the ability of the glass to trap heat.

ADJUSTABLE SILL EXTENDER: Allows a tight fit to uneven sills.



This situation begs the question:

- ☐ a. Where's the wet/dry vac?
- ☐ b. Where's the nearest laundromat?
- ☐ c. Where can I get a replacement water pump?

If you answered "c," then you should know that Sears has parts for all major brands of appliances, no matter where you bought them.

Three ways to buy parts: 1-800-4-MY-HOME® sears.com Sears Parts and Repair Centers

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Quick Click Real Hardwood Floating Floor 30 Year Prefinish Warranty Available in Red Oak, Maple, Cherry, Butternut	\$3.45/sf
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5/8" Bamboo with 25 Year Prefinish in Grade	\$2.45/sf
3/4" Prefinished Bruce Flooring 2 Stain Colors Available in Seashell and Cherry Oak (Non-warranty item - slight blemishes)	\$2.79/sf
5" Prefinished Rustic Birch Flooring (Lengths shorter than normal)	\$2.69/sf
0" Wide Pine Flooring	\$1.19/sf
3/4" Prefinished Rustic Maple Flooring	\$2.75/sf
2 1/4" and 3 1/4" Prefinished Utility Grade Oak Flooring (No warranty - you have defects and shorter lengths)	\$1.79/sf
4" Natural Maple Flooring	\$2.89/sf
3" Prefinished Asian Rosewood Flooring	\$3.39/sf
Solid Maple Butcher Block Countertops 1/2" x 25" x 8"	\$148.00/mach
1 1/2" x 25" x 12"	\$219.30/mach
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Blue Teak 20 Year Warranty	\$1.39/sf
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TALKINGSHOP

Get a Grip

Choosing and using pliers

BY JOHN KELSEY

P

liers extend and increase the strength of your hand's grip. They're simple levers, with the joint as the fulcrum: By pressing on the handles, you magnify your holding power and direct it to the tiny point where the jaws meet.

Every toolbox contains a fistful of pliers, with various sizes, jaws, joints, and handles, each suited to a particular task. But for all their differences, pliers come in just three basic types: locking, adjustable, and nonadjustable.

Locking pliers tighten mechanically onto the workpiece, freeing you to pull, twist, or even let go without losing your grip. Adjustable pliers can be sized to a variety of openings, while the jaws remain parallel so they can grip bolts or pipes. (Avoid the familiar slip-joint pliers that have a figure-eight joint perpendicular to the handles—you'll likely skin your knuckles when the tool slips.) Nonadjustable pliers move around a fixed joint, sometimes aided by a spring to open the jaws.

No one pair of pliers can do everything; turn the page to see which you'll need around your house. In all cases, look for simple but substantial tools with a smooth-operating, tight joint, and choose ones that are sized to the job at hand. Expect to pay about \$20 to \$30 for a decent pair—you won't find hard, tough steel for bargain-basement prices.

PHOTOGRAPHS BY MARK VIKER



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Locking pliers

Grip the workpiece with these pliers, then adjust the jaws with a turn of the screw at the base of the handle. Squeeze the handles and the jaws lock tight in place, freeing you to concentrate on bending, pulling, or twisting without losing your grip.



Curved-jaw

FEATURES: Serrated jaws shaped to wrap around round objects.

BEST FOR: Freeing frozen nuts and bolts, pulling nails, removing broken screws, and other demolition tasks. Acts as a clamp in a pinch.

Long-nose

FEATURES: Long, serrated jaws that close tight at the tips.

BEST FOR: Getting an unbreakable grip on small things, such as staples, pins, and broken screws in hard-to-reach places. If you were marooned on a desert island, you could survive with just this tool and a pocket knife.

Adjustable pliers

Jaws get wider with manual adjustment yet stay parallel at any size opening once the handles are engaged.



Tongue-and-groove

FEATURES: Large, serrated, groove-joint jaws and long handles for maximum leverage.

BEST FOR: Tightening and loosening metal pipes and other plumbing connectors.

Pipe-gripping

FEATURES: Lightly serrated curved jaws with four-point slip joint.

BEST FOR: Screwing and unscrewing plastic pipe without scratching it.

Wrench-plier

FEATURES: Button-adjusted cam-and-ratchet mechanism that keeps its smooth jaws parallel whether or not the handles are open.

BEST FOR: Turning bolts without stripping them, installing finished-metal plumbing fixtures (see "Don't Try This at Home," page 58).

Self-adjusting

FEATURES: Cam-and-ratchet mechanism grips the workpiece, then adjusts the jaws parallel as you squeeze the handles.

BEST FOR: General repairs, plumbing; more reliable than all-purpose slip-joint pliers.

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people comfortable, and more things possible, than even he ever imagined.

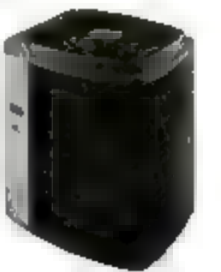
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*Dependent on model. †Not available in CA, HI, MA, and MD. ‡Based on EPA fuel economy in operation (MPG) for 2003. 27/13/10.

Nonadjustable pliers

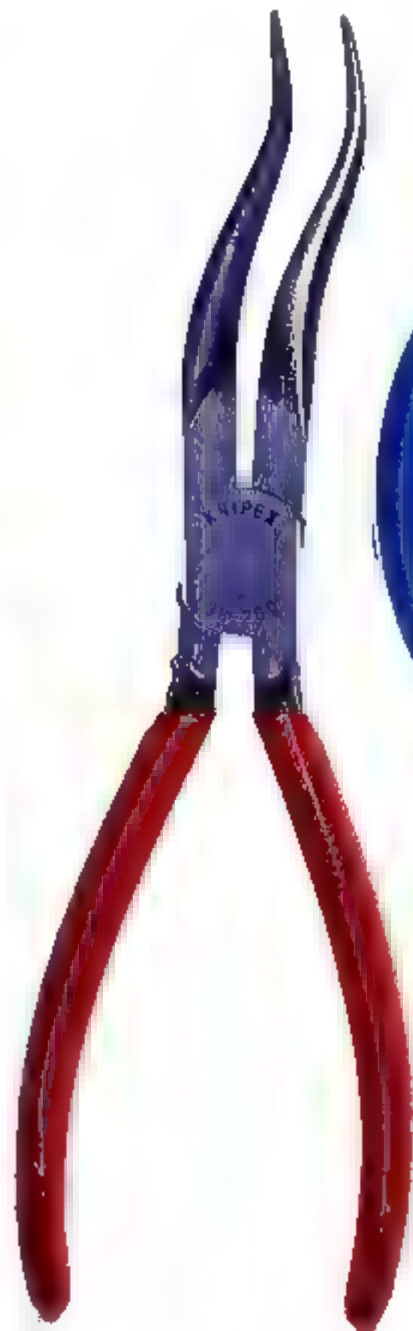
Jaws open and close around a fixed, flat joint.



Lineman's

FEATURES: Flat, deeply toothed jaws with wire cutter.

BEST FOR: Grabbing, pulling, bending, and twisting solid electrical and rebar wire and light sheet metal.



Curved needle-nose

FEATURES: Long, pointed, S-shaped nose with lightly toothed jaws.

BEST FOR: Inserting and removing small screws or other parts behind pipes, around corners, or in otherwise-hard-to-reach places.



Needle-nose

FEATURES: Lightly toothed jaws with wire cutter and rounded back.

BEST FOR: Delicately gripping small objects, e.g., fishing dropped screws, twisting stranded wires, or bending loops and eyes in solid wires.



Bent needle-nose

FEATURES: Small, pointed jaws with angled tips; spring return; and soft handles.

BEST FOR: Holding and manipulating small wires, screws, and pulling cotter pins while keeping wrist comfortably parallel to the workplace.

DON'T TRY THIS AT HOME!

4 things you should never do with pliers

- Don't use them to turn a nut when a wrench would be a better tool.
- Don't use them to tighten or loosen polished plumbing fixtures or you'll scratch the surface. Protect the finish with a rag between the jaws and the fixture.
- Don't twist them sideways or you may put too much stress on the joint and loosen or break it.
- No matter what you see on *The Three Stooges*, never, ever use them to grab your brother's nose.

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Naturally white Johns Manville Formaldehyde-free insulation insulates your family from more than just fluctuations in weather. It also shields them from concerns about indoor air quality. Which is something to think about. Because you make an insulation choice only once.

Smart Ideas. Better Insulation.



Breathe deep! Indoor air is full of microscopic nasties like these (magnified 90 times), that can trigger allergies and respiratory problems.

Clearing the Air

Whole-house and portable filters trap dust, pollen, and more

BY MAX ALEXANDER

W

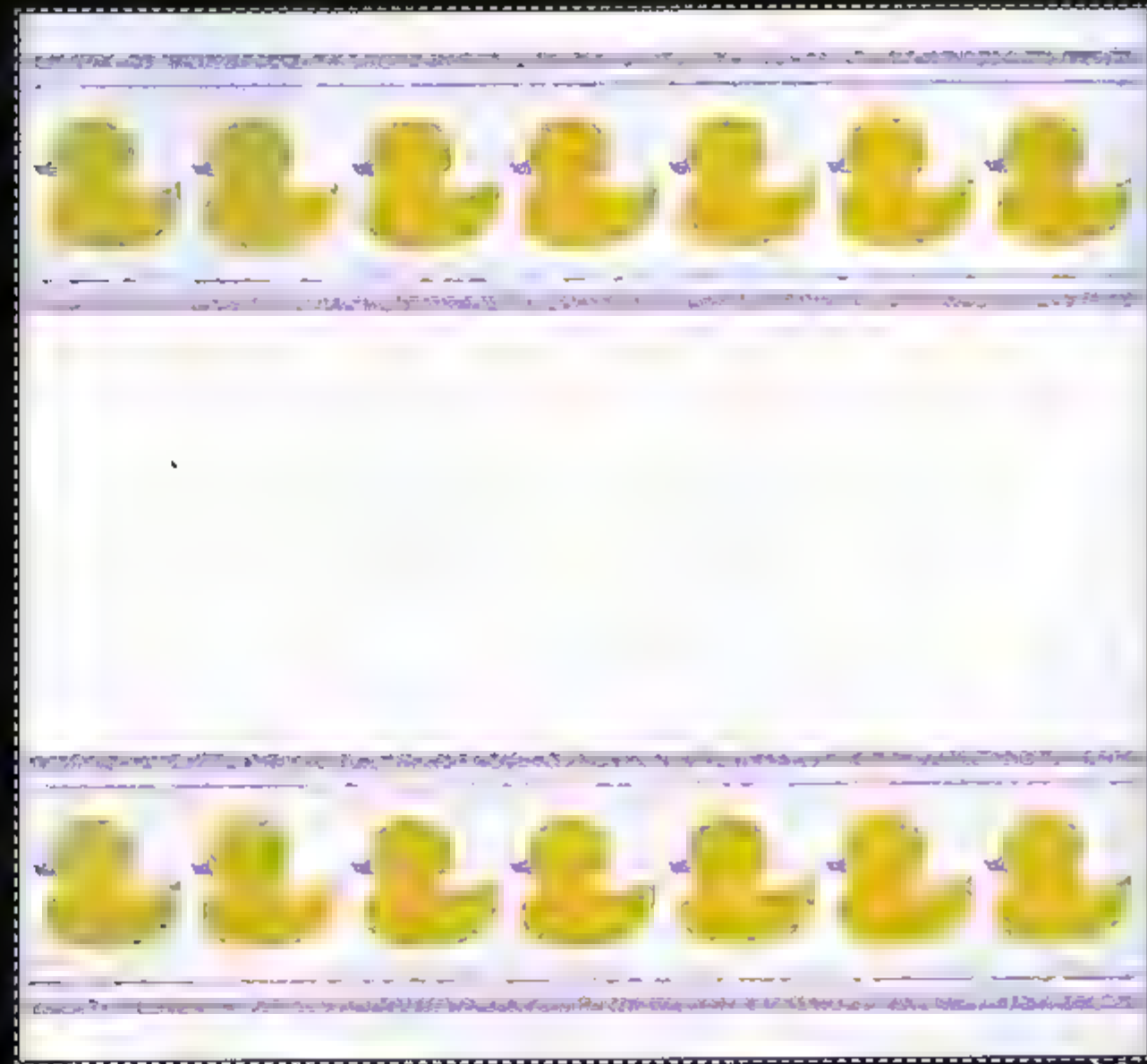
hen it comes to air pollution, there's no place like home. Today's tighter houses keep the weather outside, but they also keep contaminants inside. According to the Environmental Protection Agency, the air indoors—where we spend as much as 90 percent of our time—can be more polluted than even city smog. And dirt you can see is just the beginning. That dust collecting on end tables and bookshelves is only a fraction of what's actually swimming around in the air: an invisible mix of dust mites, pollen, dander, mold, and smoke that can be annoying to breathe and hazardous to your health.

The first line of defense against airborne contaminants is to keep a house clean and well ventilated. But for some sensitive people that may not be enough. That's where air filters come in. Household air filters are available in two basic types: media filters, which create a physical barrier that traps minute particles, and electronic

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LEAKY FAUCET?

VISIT YOUR NEIGHBORHOOD **ACE HARDWARE** FOR HELPFUL SOLUTIONS TO ALL YOUR PLUMBING PROBLEMS.



IN THE MEANTIME:

1. CUT OUT COURTESY PAPER TOWEL ABOVE.
2. USE IT TO MOP UP DAMPENED AREA.

For leaks larger than drips or four drops, this courtesy paper towel is not an adequate solution.

ACE
The helpful place.



Simple Mildew Prevention Tips

Mildew can be a problem. Especially in high-humidity areas of your home. Here is some advice from the mildew experts at Zinsser that can help minimize – and even prevent – many mildew problems.

- **Ventilate** Keep the air moving in humid, mildew-prone areas. Install exhaust fans and switch from solid to louver doors.
- **Control** Wiping shower walls dry after each use significantly reduces the moisture mildew needs to grow.
- **Eliminate** Kill existing mildew with a solution of 2-cups bleach to one gallon of water. Clean surfaces thoroughly and rinse with clean water.
- **Prevent** – Once you've cleaned mildew away, keep it away with Perma-White Mildew-Proof Bathroom Paint from Zinsser. Its bright white formula (tintable to a variety of paste colors) is guaranteed to prevent the growth of mold and mildew on the paint film for 5 years.*



To find out more about mildew prevention (inside or outside) visit www.zinsser.com or call the Zinsser mildew experts at 732-469-8100.

*Perma-White contains a mildewcide to prevent the growth of mold and mildew on the paint film only.



Dedicated to the creation of products that prevent mold and mildew.

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filters, which use a high voltage charge to attract and capture contaminants. A few air filters are hybrids that combine both methods, and some include activated carbon elements to combat odor.

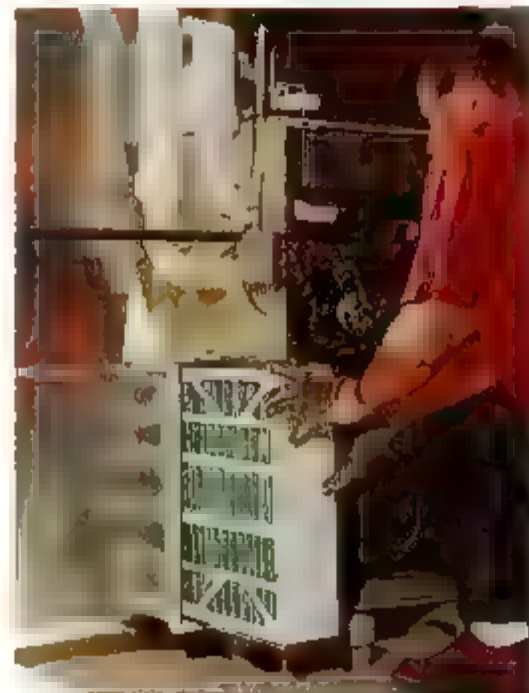
Typically, air filters are either built into the heating and cooling system (whole-house filters) or are freestanding units that can be placed in individual rooms (portable filters with self-contained fans).

Whole-House Filters

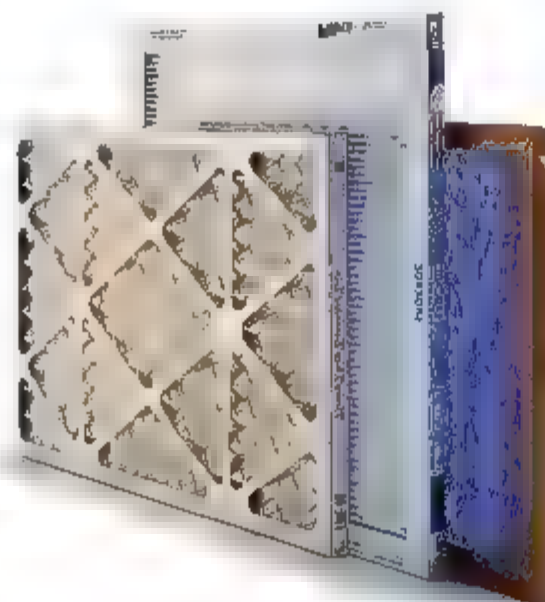
The most efficient way to filter household air is through your home's forced-air heating or central air-conditioning system. The filters are built into the return air ductwork, trapping particles as air passes through. Such systems are passive; as long as the fan is running, they are constantly filtering all the air in your house. Whole-house filters come in four main types.

FLAT FILTERS If you have a forced air furnace, you've already got a rudimentary air filtration system. That matted-fiberglass filter that should be changed once a month. "You can't change it often enough," says *This Old House* plumbing and heating expert Richard Trethewey. When it clogs with dust, it stops working and overworks the furnace. In fact, those filters are designed to protect your furnace from large particles of dust, and while they might keep surfaces in your house a bit cleaner, they won't block the microscopic particles that are most irritating to lung tissue. Pleated filters, which pack more material in the same amount of space, cost a few bucks more and do a slightly better job. By far the best pleated filters are electrostatically charged to attract allergens like pollen and pet dander. They cost around \$15 and should be changed every two to three months.

EXTENDED MEDIA FILTERS Picture a stack of furnace filters about 8 inches thick and you get the idea of an extended media filter. These boxy units contain an accordionlike pile of filtration media, which makes them more effective than regular fiberglass filters. They require professional installation because the large filter holder must be plumbed into the ductwork. The price, including installation, ranges from \$400 to \$600; you'll need to replace the \$40-to-\$60 filter every year.



Whole-house filters, like the extended media filter shown here, must be professionally installed in return-air ductwork.



PHOTOS (FROM TOP): KELLER & KELLER; DARRIN HADDAD



YOUR KIDS SHOULD BE THE ONLY THING GROWING IN YOUR HOME.

Perma-White® prevents the growth of mold and mildew on painted surfaces for five years.*

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*Perma-White contains a mildewcide to prevent the growth of mold and mildew on the paint film only. Existing mold and mildew must be removed before painting. If you are concerned about mold growth on other surfaces and/or unseen places, contact a mold removal specialist.

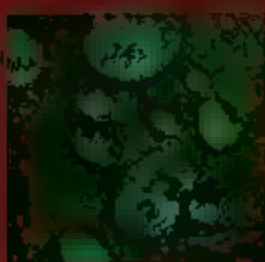
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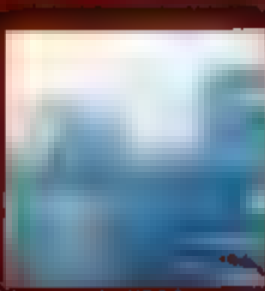
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James Hardie® siding is the only siding that's guaranteed to last for 50 years. It's the only siding that's guaranteed to resist rot, cracking, and warping. It's the only siding that's guaranteed to look like real wood for 50 years.

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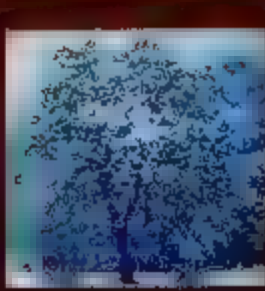
Resists damage from hot, humid climates.



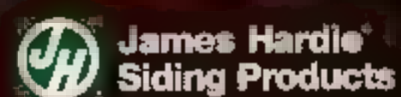
Resists damage from high winds.



Resists damage from insects.



Resists damage from cold, windy climates.



ELECTRONIC FILTERS These high-tech units, sometimes called electrostatic precipitators, are also incorporated into the ductwork. As air passes through, a high-voltage current puts an electrical charge on particles. At the other end of the unit, oppositely charged collector plates grab the particles like a magnet. Electronic filters work especially well on smoke particles too small to be trapped in media filters. One independent test found such filters worked about 30 times as well as regular fiberglass filters. (There is no industry yardstick for measuring the effectiveness of whole-house units, because performance is affected by a home's blower and ductwork.) Unlike media filters, electronic filters never need replacing, but the aluminum collector plates must be cleaned in soapy water every few months. The process of charging particles, called ionization, may produce trace amounts of ozone, a lung irritant (see "Eye on Ions," page 66). Electronic filters cost \$600 to \$1,000 installed and require a 120-volt electrical outlet.



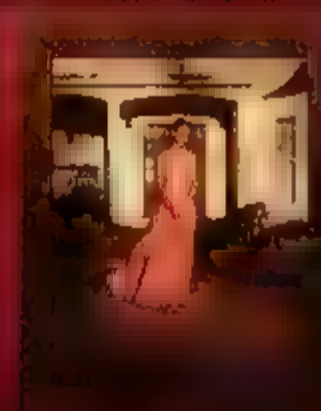
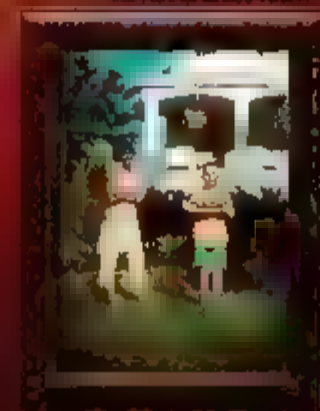
ULTRAVIOLET FILTERS People worried primarily about germs can consider an ultraviolet filter. Typically, UV filters are built-in components, sold as add-ons to a whole-house electronic precipitator (as in, add on \$400 to \$800). The ultraviolet light zaps airborne bacteria and viruses into oblivion, which is why hospitals use UV air filters in tuberculosis wards. Of course, the bug has to reach the filter before it can be zapped; if someone sneezes in your face, UV technology won't help. (continued on pg. 66)



But Do They Really Make You Feel Better?

Air filters in general do a good job of clearing the air. But do they actually make you feel better? The medical verdict is still out. According to Andrew Filderman, M.D., a pulmonary specialist in Rockport, Maine, no controlled studies have been done on the subject. "We know these things filter the stuff, but we don't know if it helps," he says. "It's difficult to prove because there are so many provocative things in the air, and you don't always know what's causing the problem." Dr. Filderman adds that while some allergic or asthmatic patients report benefits from air filters, the evidence remains anecdotal. "If source control and ventilation don't help," he says, "it's not unreasonable to try a filter."

PHOTOS: DARRIN JARDON



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Eye on Ions

Portable ion units are similar to whole-house electronic filters in that they both put an electrical charge on particles. In a whole-house system, the particles of dust and pollen are charged as they pass through the unit, then captured on an oppositely charged collector plate. Portable ion filters, which operate without fans, send streams of negative ions directly into the air. Charged airborne particles are then attracted to a collection rod in the unit (which needs occasional cleaning), or with some models allowed to land on surfaces in the house (where dusting removes them from the room).

As a by-product of the ionization process, these types of units may produce trace amounts of ozone, a lung irritant. (Ion air filters should not be confused with ozone generators, a different type of air filter that relies on ozone to clean the air and is not recommended by the EPA or the American Lung Association.) Ion filters are considered safe if they release less than 50 parts per billion of ozone, the government's threshold. But even smaller amounts could bother people with asthma or other breathing disorders. If you're considering a whole-house or portable electronic filter, check the product specifications to make sure it does not exceed safe levels for ozone emission.

Portable Room Air Filters

If your house has no central air-conditioning or heating, portable room air filters are the most practical choice. (Freestanding whole-house units exist, but they typically require attic installation and ducting to individual rooms.) Most portables employ highly effective HEPA filters, which are not generally used in whole-house systems because they need more powerful fans than furnaces can provide (see "Getting Hep to HEPA," right). Some portable units, called ion air cleaners, use electrostatic precipitator technology. Ion units, which don't require fans, are typically quieter than HEPA models and cost less to operate because there are no filters to replace. But these units may produce trace amounts of the lung irritant ozone as a by-product of the ionization process (see "Eye on Ions," above right).

Portable units range in price from \$150 to as much as \$1,500, and there are ongoing costs. HEPA filters, which must be replaced annually, cost from \$40 to more than \$100. Portables can also be noisy, because it takes a lot of wind to push air through such a fine filter. Some manufacturers are addressing the noise issue with so-called smart filters that employ an optical sensor to judge when the air is relatively clean, then switch to a lower fan setting. Another strategy is to run a portable filter on high during the day, then turn it to low at night.

Portables powered by fans are rated by "clean-air delivery rate" (CADR), which measures both air movement and gunk trapping effectiveness. It's important to buy a filter that's big enough. Manufacturers recommend that the CADR be at least two-thirds the room's area in square feet—so a 15-by-20-foot room (300 square feet) would need a filter with a CADR rating of 200. (The calculation assumes 8-foot ceilings.) ■



Getting Hep to HEPA

High-efficiency particulate air (HEPA) filters were invented during World War II as a way to prevent radioactive particles from escaping laboratories. The filters are made of various synthetic fibers; there is no construction standard because the term merely designates an

efficiency rating: the ability to block 99.97 percent of all particles 0.3 micron or larger. (A micron is a millionth of a meter, or .000039 inch; the naked eye can't see anything smaller than about 25 microns.) That rating is for laboratory conditions, however. Experts say that at home you can realistically expect a HEPA filter to grab about 80 percent of such particles.

A new filter technology for the home, called ULPA (ultra low penetration air), has raised the stakes. ULPA filters block 99.99 percent of particles measuring 0.12 micron, quite a bit smaller than the HEPA threshold. But ULPA filters restrict so much air flow that in practice they are able to clean less air than HEPA filters. For best performance, look for those labeled "true HEPA."

For more information on keeping air clean
Go to www.thisoldhouse.com or America Online Keyword:
This Old House and type "breathing easier" in the search box.

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PHOTOS (CLOCKWISE FROM TOP LEFT): DARRIN HADDAD (2); SUSAN McWHIRNEY



With its graceful ladder back and woven seat, a rocker by chair maker Brian Boggs evokes the plain elegance of Shaker furniture (\$1,600; www.brianboggschairs.com).

Something in the Way It Moves

The timeless appeal of a rocking chair

BY JOE CARTER

Contrary to popular myth, Ben Franklin did not invent the rocking chair. History shows only that he was the proud owner of one of those newfangled pieces of furniture, which sprang up in the Colonies some 250 years ago.

"Oftentimes, Windsor chairs were altered by shortening the legs a bit and sawing a slot into each foot to receive the rockers," says Leigh Keno, a New York-based dealer and expert in American antiques. Converting a stationary chair was easy and made economic sense, too. In 1828, a New Jersey shop did it for 50 cents, a bargain compared with the \$3.50 cost of a rocker built from scratch.

The rocking chair's popularity has hardly waned since Franklin's time. Besides the soothing ride, thought to be good for what ailed you, rockers were ideal for nursing, knitting, sewing, and other seated tasks. At first deemed too plain for the formal parlor—not to mention tough on expensive carpets—early versions went mostly to rural homes and porches (the advent of the platform rocker in the late 1800s solved the carpet problem). Soon, though, designs evolved to embrace the styles of the day.

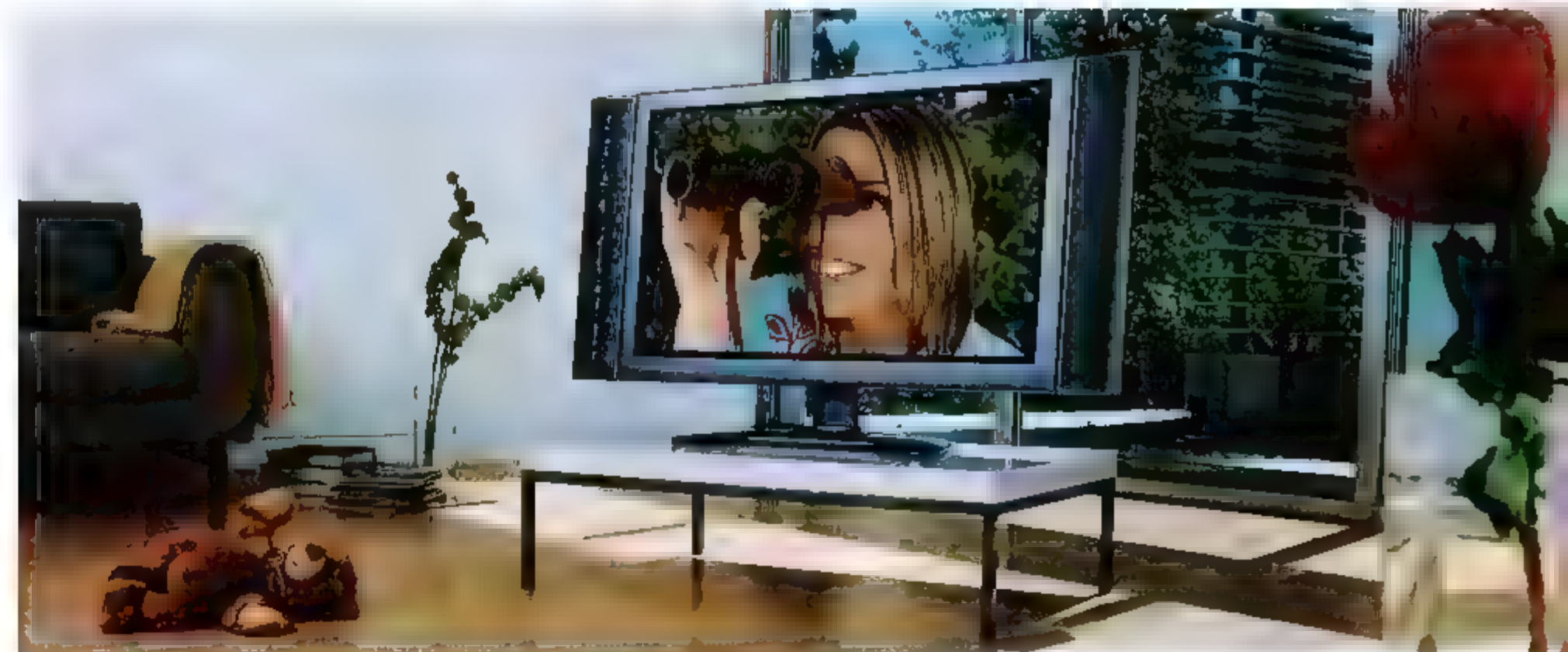
PHOTOGRAPH BY NEDJELJKO MATURA

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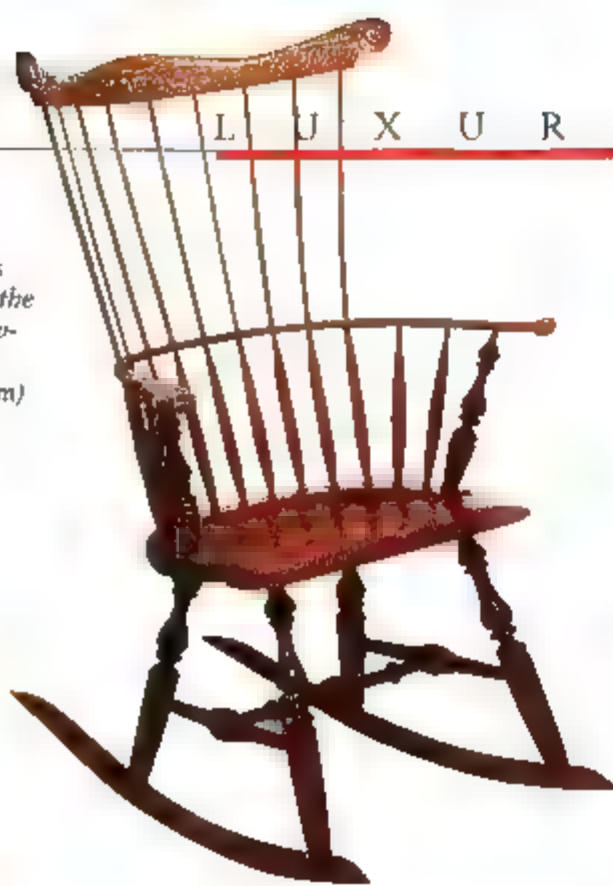
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PHILADELPHIA STYLE
David Spera makes the spindles for his 1770 comb-back rocker the old-fashioned way, with a draw-knife and a spokeshave (\$895, www.vermontwindsorchairs.com)



CONTEMPORARY CLASSIC
The most famous design of California woodworker Sam Maloof inspired a generation of chair makers. Last year, one sold at auction in Los Angeles for \$23,375 (www.sammaloof.com).



ARTS & CRAFTS COMFORT
A rocking version of the popular Morris chair, Stickley's Mission rocker is an easy chair on runners (\$3,200; www.stickley.com)



Using a bending form, Kentucky chair maker Brian Boggs steam-bends the back leg of a rocker.

After the Windsor came ladder-back, Shaker, Boston, Victorian, bentwood, and wicker versions. Lavishly decorated and upholstered for comfort, rockers became the seat of choice, courteously offered to guests as well as to Grandma.

Innovations continue today, with rockers made of chrome, molded plastic, even laminated cardboard. In his workshop in Berea, Kentucky, Brian Boggs puts a contemporary spin on the traditional form, turning out graceful ladder-back and woven-back designs in walnut, cherry, maple, oak, and hickory. "A lot has to be done right to make a rocker that lasts, but only one thing done poorly can make it fail," says the 43-year-old woodworker.

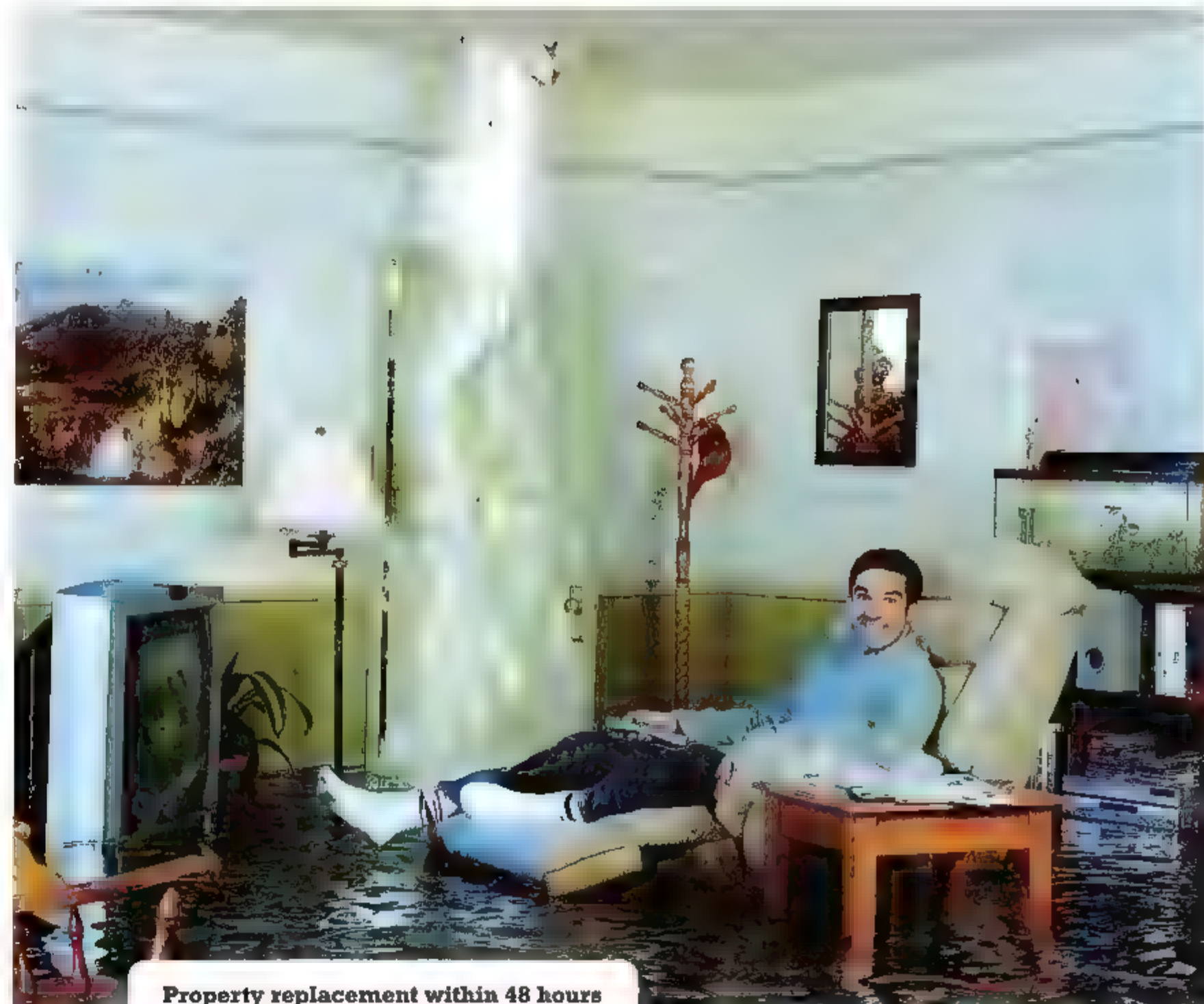
To build a chair that will withstand the rigors of rocking, Boggs starts by handpicking the logs. "I get ones that aren't twisted and saw them into short sections that closely follow the grain," he says. That way the wood is stronger and less likely to distort over time. He goes to great lengths to make sure joints start and stay tight, cutting tenons and mortises to hairline tolerances and using specialized sawing techniques for each component to

RECORD-SETTING ROCKERS

In 1998, a pair of rocking chairs that had belonged to President John F. Kennedy were auctioned in a sale of items from the estate of Jacqueline Onassis. "The estimate was under \$5,000 for each," says Leslie Keno, senior vice president of American furniture and decorative arts at auction house Sotheby's. To his astonishment, the first rocker brought \$442,000; the second, \$453,000. "The potential buyers wanted a piece of Camelot," says Keno. Here, Kennedy rocks in a 1963 meeting with Henry Cabot Lodge Jr., then U.S. ambassador to South Vietnam.



PHOTOS: TERRY NELSON (TOP RIGHT), GENE SASSE (CONTEMPORARY STYLE), ROBERT KNUDSEN, WHITE HOUSE; JOHN FITZGERALD, KENNEDY LIBRARY; BOSTON (BOTTOM RIGHT)



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WINDSOR WITH A TWIST
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ROCK AND RECLINE
An adjustable back angle means small sitters as well as large can be comfortable in Robert Erickson's leather rocker (\$4,900; www.ericksonwoodworking.com).

MID-CENTURY MODERN
In 2002, Modernica reissued the long-out-of-production arm-shell rocker, in the original fiberglass (\$335; www.modernica.net).

SHAKER INSPIRED
Another Brian Boggs design has a back and seat made of woven hickory bark (\$3,100; www.brianboggschairs.com).

minimize differences in expansion and contraction when the parts are joined. "Everything moves together," Boggs says. He cuts runners with a band-saw and mounts them so that "the center point of the radius is right in front of the sitter's chin," ensuring a smooth and balanced ride.

That level of craftsmanship doesn't come cheap. Boggs's chairs sell for between \$1,600 and \$3,100, while other contemporary handmade rockers, such as those by renowned California woodworker Sam Maloof, can fetch tens of thousands of dollars. But high-quality rocking chairs can also be had for far less. "Rockers tend to stay in the families that bought them. They have more heirloom than market value, and they don't do that well at auctions," says Wesley Cowan, president of Cowan's Historic American Auctions, in Cincinnati, Ohio. "A few hundred dollars will get you a fine hardwood antique." That's a pretty good deal for a vintage piece of Yankee ingenuity. ■



CHECK IN, ROCK OUT

Killing time at an airport is few people's idea of fun, but at Philadelphia International travelers can rock while they wait. As part of a 1999 plan to make the airport more user-friendly, officials put 30 rocking chairs in various concourses. "The response was amazing," says Charles Isdell, director of aviation. "The rockers were always in use. Families would gather them into a circle, where they could contain little kids. You'd see business travelers with the laptop out and the cell phone going, and they'd be sitting on a rocker."

Within a year, the 30-chair experiment grew to permanent seating for more than 150, and there are plans to add still more of the white-painted slat-backs with the generous armrests. "When we put out new ones, we can't unwrap them fast enough—people jump right on," says Leah Douglas, the airport's director of exhibitions. "These chairs rock 16 hours a day. They clearly have a calming effect."

For a profile of rocking-chair designer Sam Maloof Go to www.thisoldhouse.com or America Online Keyword: **This Old House** and type "Maloof" in the search box

PHOTO: GEOF CARL (SHAKER STYLE)



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HOMEOWNER'S HANDBOOK

STEP-BY-STEP PROJECT SERIES



Richard Trethewey tests a new freezeproof exterior faucet, which prevents water pipes from freezing and rupturing.

Installing a Freezeproof Faucet

with *This Old House* plumbing and heating expert Richard Trethewey

BY JOSEPH TRUINI PHOTOGRAPHS BY SHAFFER SMITH PHOTOGRAPHY

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Anatomy

ILLUSTRATION BY GREGORY NEMEC

A burst water pipe is a home-repair nightmare. When the temperature drops below 32° F and the water in an exposed pipe freezes, it expands, rupturing the pipe. While most plumbing is protected by insulation or heating, an outdoor faucet is vulnerable to the elements.

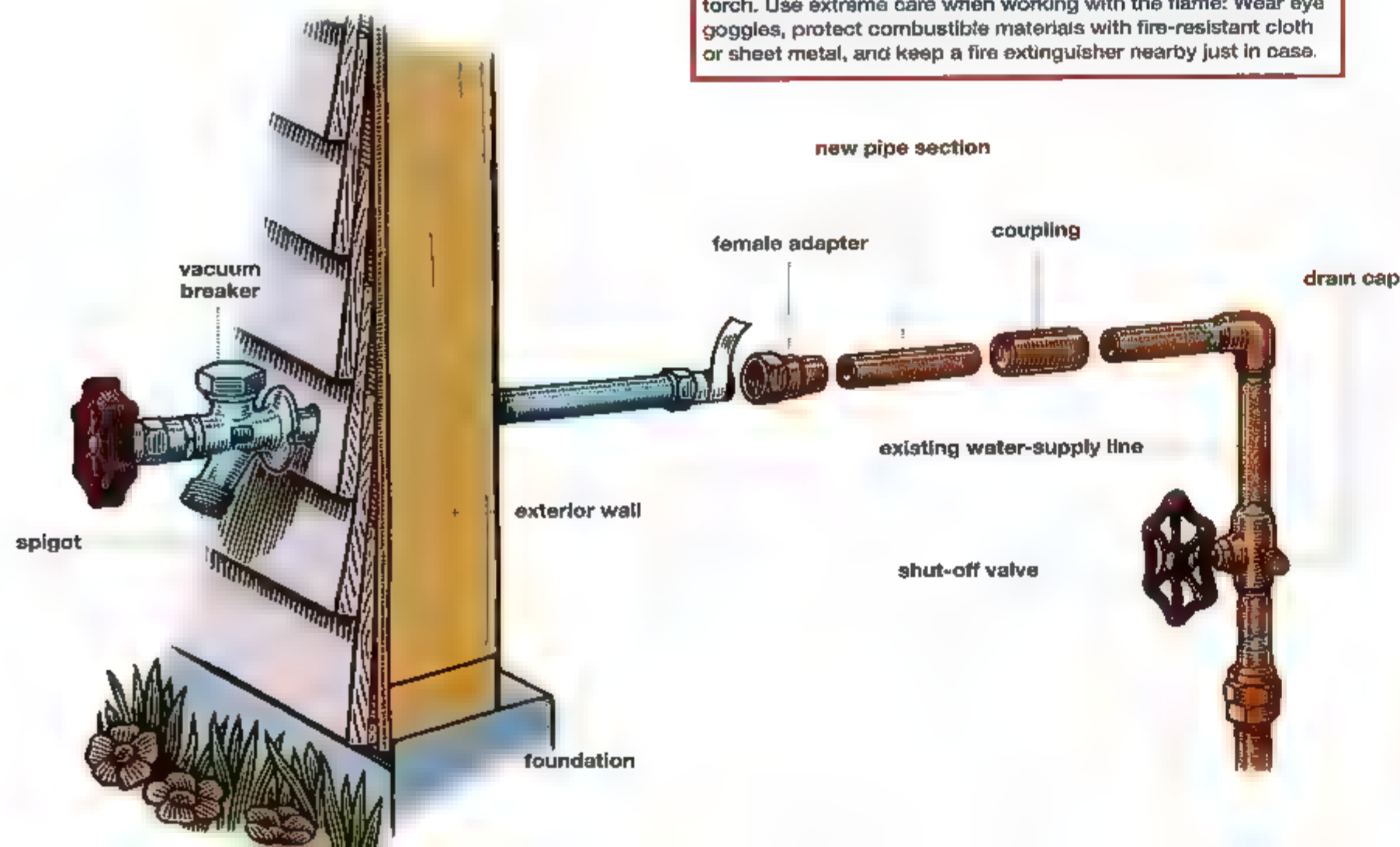
Fortunately, this fixture is easy to protect with a freezeproof faucet (also known as a freezeless or frostproof hose bib, sill cock, or faucet). A standard hose faucet freezes because the supply pipe connects to the faucet outside the heated house. This exposes the water to freezing temperatures. A freezeproof faucet, ranging from 4 to 24 inches in length, extends back into the house, and its valve seat—where the water stops when the faucet is off—is all the way inside (see “How It Works” far right). So once the handle is turned off outside, the water never makes it farther than the warm side of the wall; any water trapped in between just drains out the faucet.

As TOH plumbing and heating expert Richard Trethewey

shows here, replacing an existing hose faucet with a freeze-proof one is at most a one-day job. The faucet Richard chose also has a vacuum breaker (about \$25), which keeps it from sucking dirty or herbicide-polluted water through the hose back into the water supply if there's a sudden drop in pressure. (This feature is required by code in some regions; check local regulations.) It's 10 inches long—long enough to reach well inside the heated house—and is installed with a slight downward pitch so the pipe will drain after it's shut off. However, the faucet can still freeze and rupture if a hose is left attached, which prevents the water from dripping out. Disconnect hoses before first frost, or install a self-draining model (about \$38).

Note that this installation presumes your house is plumbed with copper pipe. You'll generally be able to follow these directions for other materials, although cutting and joining will be different. If you have galvanized steel pipes, don't forget to use a dielectric union if you introduce copper pipe to the system.

CAUTION: This project involves soldering with a propane torch. Use extreme care when working with the flame: Wear eye goggles, protect combustible materials with fire-resistant cloth or sheet metal, and keep a fire extinguisher nearby just in case.



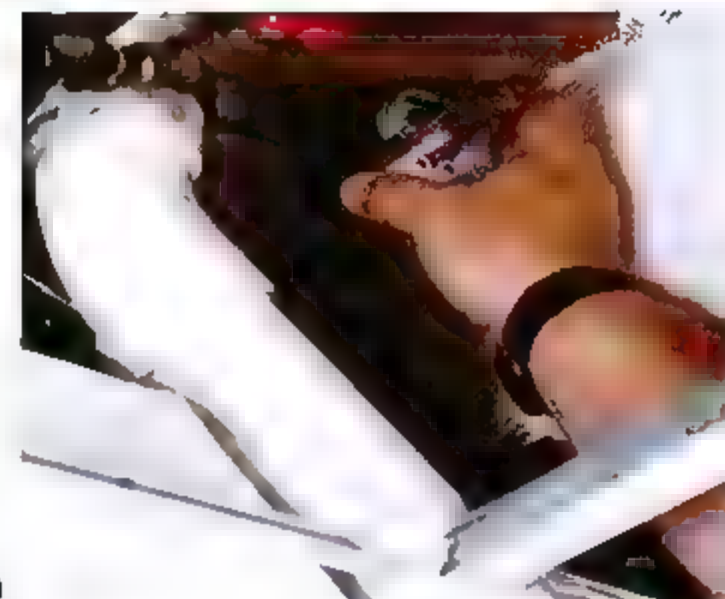
Step by Step



1

Drain the faucet

- Close the water-supply shut-off valve nearest to the hose faucet to be replaced.
- Go back to the faucet, disconnect the hose, and open the faucet so it drains (above).
- Return to the shut-off valve and check its side for a small nut (called a drain cap). If you see one, hold a bucket under the valve and loosen the nut with your fingers or a pair of pliers. Any water trapped between the faucet and the shut-off valve will drain out.

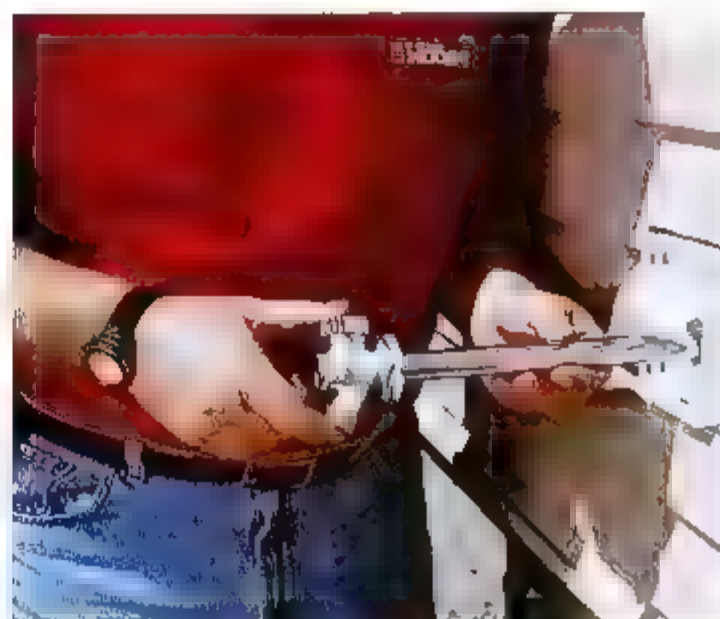


2

Cut the supply pipe

- On the inside of the wall, find the horizontal pipe coming from the hose faucet. Estimate where the new freeze-proof faucet will reach, add 6 inches, and make a mark.
- If the pipe is copper, use emery cloth or 100-grit sandpaper to clean this area.
- Cut copper pipe at the mark with a mini hacksaw, tubing cutter, or close-quarter tubing cutter (above).

TIP: When using a tubing cutter, make at least one full revolution around the pipe before tightening its knob a turn.



5

Install the new faucet

- Wrap the threaded end of the new faucet with Teflon plumber's tape, then slide it through the hole and press the flange tight against the siding (above). Don't screw it in place just yet.
- If the hole is a bit too big, pull out the faucet a few inches and fill the space around the pipe with a thick bead of adhesive caulk. This will help seal out the cold.
- Now move inside, bringing with you all the fittings and tools for making the plumbing connections.



6

Fit the pipe connection

- Thread a 1/2-inch female copper adapter onto the end of the freeze-proof faucet (above), then tighten it with a wrench.
- Measure the gap between the adapter and the water-supply pipe you cut; add 1/2 inch and cut a length of new pipe to fit or use what's attached to the old faucet.

TIP: Fit an adjustable wrench on the wrenching surface (next to the threads) to hold the faucet steady as you tighten the adapter.

Tools



1. Drill with 1-inch-diameter spade bit
2. Tongue-and-groove pliers
3. Adjustable wrench
4. Pipe flux and acid brush
5. Lead-free solder
6. Propane torch
7. 1/2-inch coupling (1/2-inch CxC)
8. 1/2-inch female adapter (1/2-inch CxF)
9. Emery cloth
10. Close-quarter tubing cutter
11. Mini hacksaw
12. Tape measure
13. Screwdriver
14. Teflon plumber's tape
15. Freezeproof faucet

NOT SHOWN

Caulk
Fire-resistant cloth and fire extinguisher
Fitting brush

Two 1 1/2-inch-long weather-resistant screws
Bucket
Eye goggles

How It Works

There are several types of freezeproof faucets. Some have self-draining outlets in case someone leaves the hose attached. Others can mix hot and cold water—more complicated to install but ideal for washing the car or shampooing the

dog, or for when the kids want to play under a lawn sprinkler. Here we show a cutaway of a freezeproof faucet with a vacuum breaker, the most popular model, and one often required by code.

FAUCET HANDLE

Controls water flow. After it's shut, water will continue to drip out for a few seconds as the chamber drains. Resist the temptation to crank harder on the handle—that will only damage the rubber seat.

VACUUM BREAKER

Prevents toxic or bacteria-laden water from entering a home's water supply. This can occur if the hose is left in a puddle of water and a pump is suddenly shut off or a water main breaks, causing negative pressure in the line. The vacuum breaker allows air, but not water, to enter the faucet.

STEM Turns with faucet handle to close seat at far end of pipe chamber.

PASS-THROUGH HOLES Allow water to get past threads, which hold the stem steady in the chamber.

MALE CONNECTION Requires female adapter for soldering connecting piece to supply pipe.

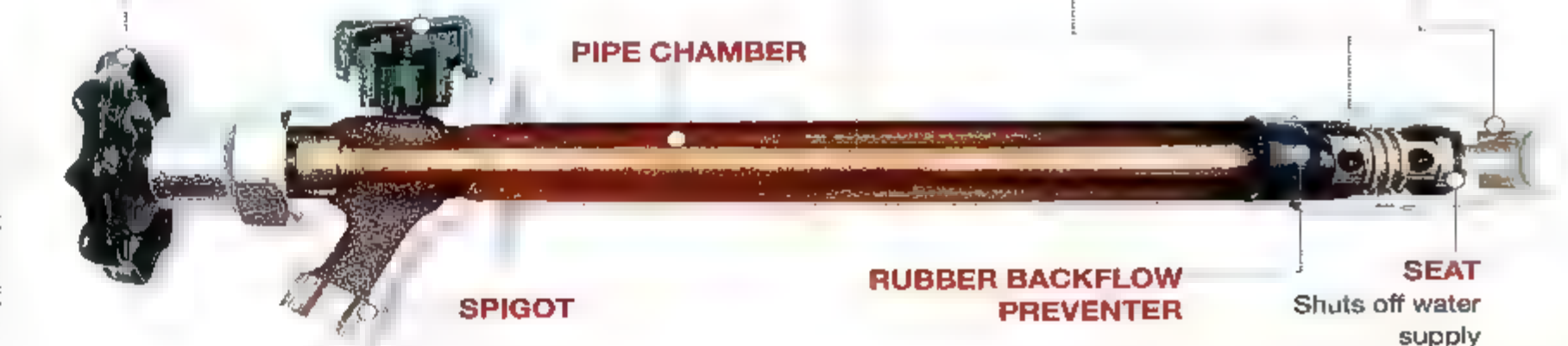


PHOTO (BOTTOM) SUSAN McWHINNEY

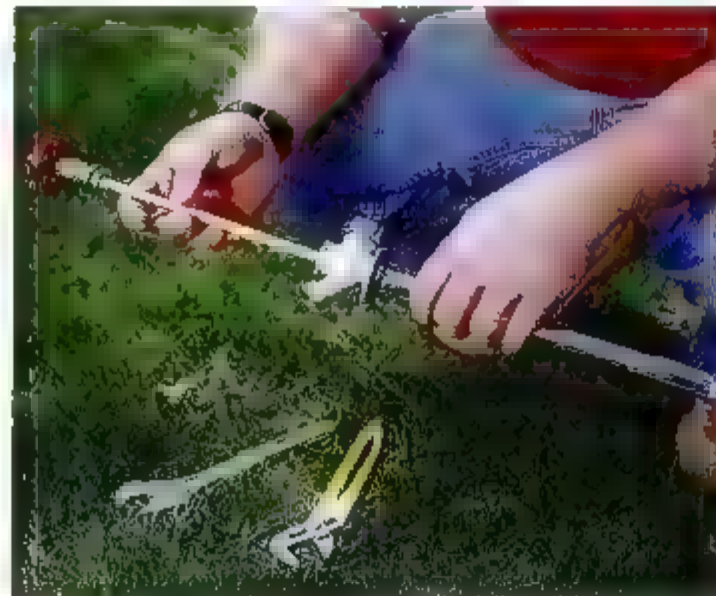


3

Take out the old faucet

- Go outside and remove the two screws holding the old hose faucet to the house.
- Carefully pull the faucet out of the wall (ABOVE). If its flange is trapped behind a piece of siding or trim, use a pry bar to work the flange free.

TIP: Don't discard the old faucet just yet. You may be able to use part of the supply pipe that's attached to it to connect the new freezeproof faucet.



4

Remove the new faucet's stem assembly

- Use an adjustable wrench and pliers to remove the stem assembly from the freezeproof faucet. Twist off the retaining nut and slide out the assembly (ABOVE). This is necessary to prevent the stem's rubber seat from melting during soldering.
- Test-fit the new faucet into the hole in the house wall. If it doesn't quite fit, enlarge the hole with a drill and 1-inch-diameter spade bit.



7

Solder the connections

- Slide a 1/2-inch coupling over the end of the water-supply pipe.
- Insert the short pipe section into the coupling at one end and the adapter at the other.
- Solder the three joints using a propane torch and lead-free solder (ABOVE).
- Wipe the joints clean with a thick cloth, being careful not to touch the hot pipe with your hand.

TIP: Remember to clean all pipe ends and fittings with emery cloth and a wire fitting brush, then apply flux to all connecting surfaces before soldering.



8

Reinstall the stem assembly

- Now you can secure the faucet to the house with two 1 1/2-inch-long weather-resistant screws. Drive the screws through the mounting holes in the flange.
- Slide the stem assembly into the faucet and tighten it with pliers (ABOVE).
- Close the drain nut on the shut-off valve, then open the valve and check for leaks.
- Now go back to the new faucet and turn it on. Allow the water to run for a few seconds to flush out any excess flux.

TIP: For extra weather protection, wrap the faucet's pipe with pre-slit foam or fiberglass pipe-insulation tubes.

LETTER FROM THIS OLD HOUSE

Staying a Step Ahead

BY NORM ABHAM

My father was a very organized man. So when it came time each year to put away the summer equipment and get ready for fall, you can bet he had a system. Replace the screens in the windows with storms, for example, and you might as well clean and repair them before you store them. Service the mower before it goes into storage, and while you're at it make sure the leaf blower and snow thrower run—before you ever need them. He always thought ahead, like the proverbial ant who prepares all summer for the coming winter.

I wish I could be so disciplined. It always seems that the tasks I skip at summer's end and promise I'll do over the fall and winter never get done in time. I even get caught unawares, as I did last winter when an early snowfall left me using a hammer drill to plant the snowplow stakes in the frozen ground around the driveway.

But it only takes one misstep like that to teach you a lesson. My father used to shore up the thin iron posts on our front porch with 2x4s each fall because he'd surely watched them bow out like a pair of parentheses under the weight of a couple of feet of snow on the roof. And how many times do you need to get a sky-high heating bill in November to remember to close your storm windows? (It always amazes me how many houses I see with wide-open storms in midwinter.)

A couple of days of hacking away at leaf-and-ice sculptures in the gutters convinced me that I need to clean them at least twice in the fall before the frost arrives. And spending last winter shaking the snow off cypress shrubs so their branches wouldn't split made me realize that I should probably wrap them in protective burlap in the fall.

Right now I'm thinking about what needs to get done before the warm weekends fade. My front-door threshold could use another coat of deck paint to keep the winter elements out. I'll be sure to repair any holes in the screens before I put them away so they'll be effective against mosquitoes at the first sign of warm weather. I'll get a good rake and snow shovel ready for the coming seasons. And most important, I'll have my furnace serviced long before I need to turn it on and have the chimney swept in advance of the first chilly night's fire.

If you just set aside a weekend late in September (or whichever month starts your cool weather), you can do these tasks all at once. Put it on the calendar today (and slate it in for next year while you're at it), and you'll be happy to be ready when it's time to face the leaves, the cold, and the snowflakes as they start blanketing the land. ■

PHOTOGRAPH BY KELLER & KELLER



For TOH master carpenter Norm Abram, a little advance planning makes readying his house for the cold months a lot easier.

Coming in October

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Appalachian Tale

A seedy shack blossoms
into a weekend retreat

BY LAURA FISHER KAISER
PHOTOGRAPHS BY ERIK JOHNSON

When Martha Ann Duncan set out to turn a long neglected five-room house in the Appalachian Mountains into a weekend retreat, everyone thought she was crazy. Even her husband, Gerald, had his doubts. The 1906 farmhouse, with its enclosed center breezeway, or dogtrot (see "Dogtrot Architecture," page 88), had two crumbling porches, peeling clapboards, and a leaky asphalt shingle roof. Years of rain pouring in had caused the rear wall to buckle. Inside, it was cramped, dark, and claustrophobic. There were no closets, and the property's lone toilet resided in a dilapidated outhouse.

But when Martha Ann looked at the property, she envisioned something else: a country cottage, decked out in folk art, where she could relax with family and friends by a roaring fire. Never mind that there was no fireplace.

HONORING A HUMBLE PAST

She also saw a chance to preserve part of the character of Shady Valley, a picturesque spot 3,000 feet above sea level in northeastern Tennessee. The house had been one of the first homes in the valley to get electricity, in 1942. Old-timers recalled that people would drive by just to see the lightbulb on the front porch. "I was afraid a piece of heritage would be torn down and replaced with a mobile home," says Martha Ann. She and Gerald, who live in Memphis (more than eight hours away by car), had fallen in love with the community of tobacco farms and cranberry bogs. They already had another small weekend place in the area and wanted a satellite for overflow guests. Even so, neighbors were surprised when the couple plunked down \$20,000 for the 1½-acre property.

But Martha Ann knew what the 900-square-foot structure needed. She wanted to rip off the porches and rebuild them, add a master bedroom, bathroom, utility room, and garage, knock down walls to create a big, open great room; replace the cast-iron coal stove in the living room with a fireplace; and convert the attic into a sleeping loft.



before
ABOVE: The neglected house sat on a 1½-acre lot with spectacular views.

BELOW: Not only did the house get a face-lift complete with a red tin roof, but a new master bedroom, bath, utility room, and garage were added on. The clapboards are a mix of old, salvaged, and new western red cedar, all stained sage green.



after



old timbers in the gable roof (Martha Ann left the attic on the other half of the house intact to create a loft that she uses as a study and guest room. "It's a great nook for rainy days and looking out over the valley," she says. The back bedroom was converted into a bathroom, with some space left over for a hallway and a linen closet. The hallway links the master bedroom addition to the original house.

(continued on pg. 88)

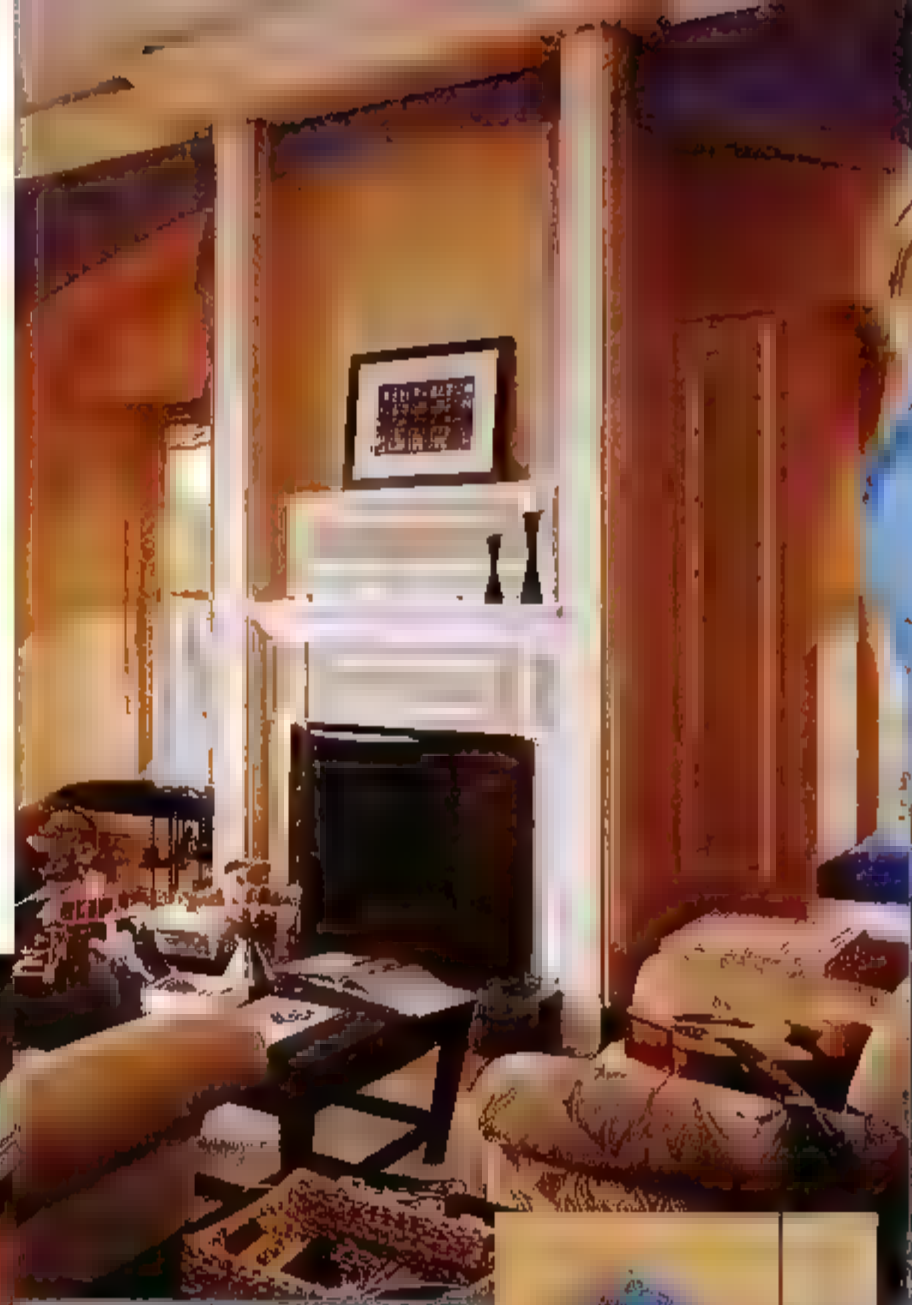
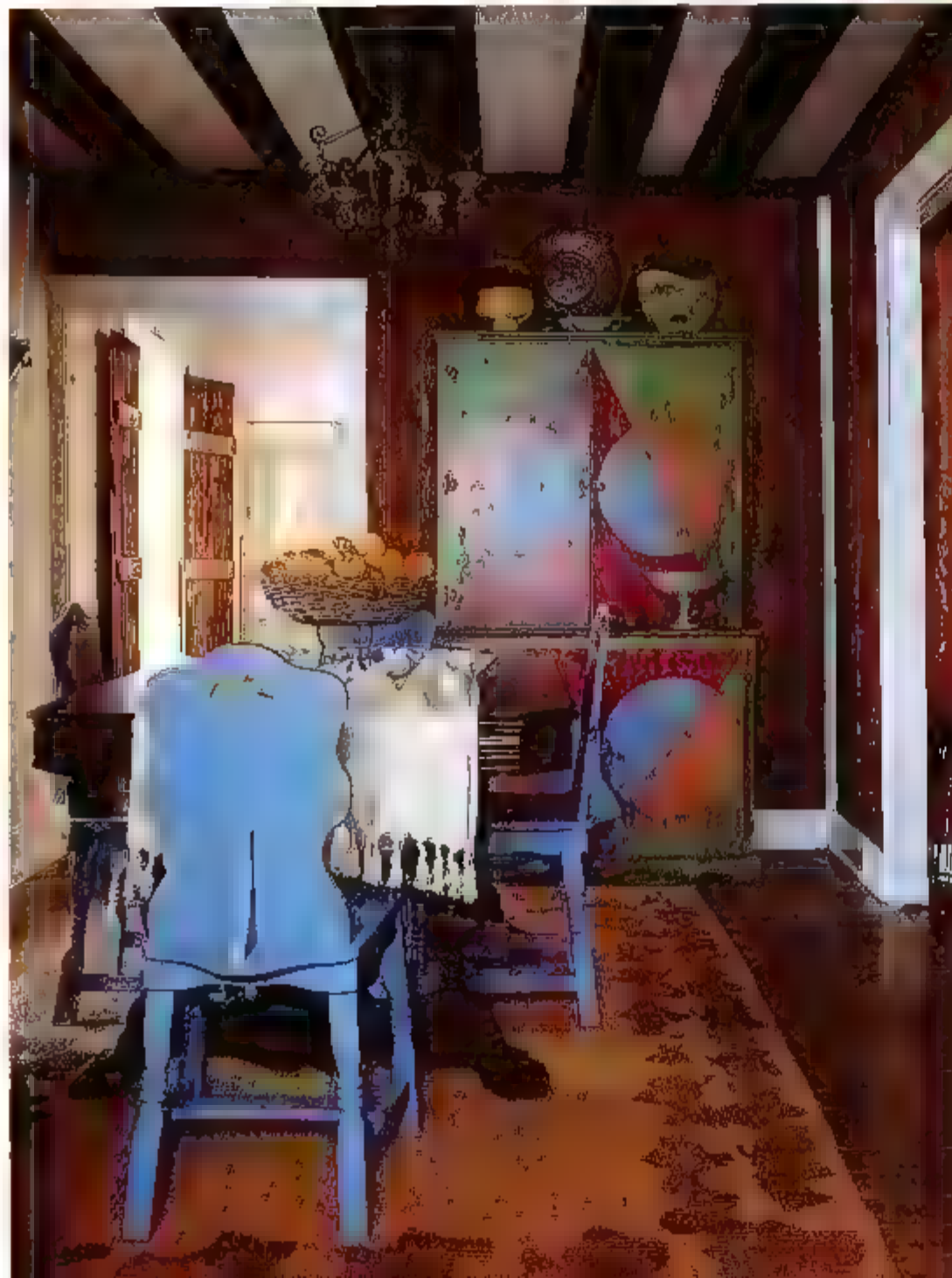
LEFT: Homeowner Martha Ann Duncan sits at the breakfast bar that separates the kitchen from the living room.
BELOW: Faux beams on the dining-room ceiling were achieved by staining alternate rough-sawn boards white and walnut. Skillful brush strokes turned a plywood unit into a folk-art-inspired china cabinet. Blue-painted chairs team with an antique table.

OPENING UP

The building inspector brought welcome news: The home's foundation was solid as a rock. In fact, it was rock—four boulders under each corner and stone piers throughout. There was also a serviceable well. And although the house needed a new roof, only a small part of the sheathing had to be replaced. Inspired by three red brick silos down the road, Martha Ann had a red tin roof installed and chose sage-green exterior stain to blend in with the surrounding landscape.

To keep within her \$100,000 budget, Martha Ann served as her own general contractor, shopped at discount building suppliers, and did much of the finish work herself. Commuting from her job as an early-literacy consultant in Memphis, she spent as much time as she could on site. Jerald, an allergist, flew up on weekends. "I'd have a crew early in the morning, another in the afternoon, and another at night," says Martha Ann. "I know where every nail, screw, and wire is in that house."

The most dramatic change was turning the living room, kitchen, and dining room—all connected by narrow doors—into one large L-shaped room. To make the new open space even more inviting, the flat ceiling was ripped out in the kitchen and living room areas to expose the



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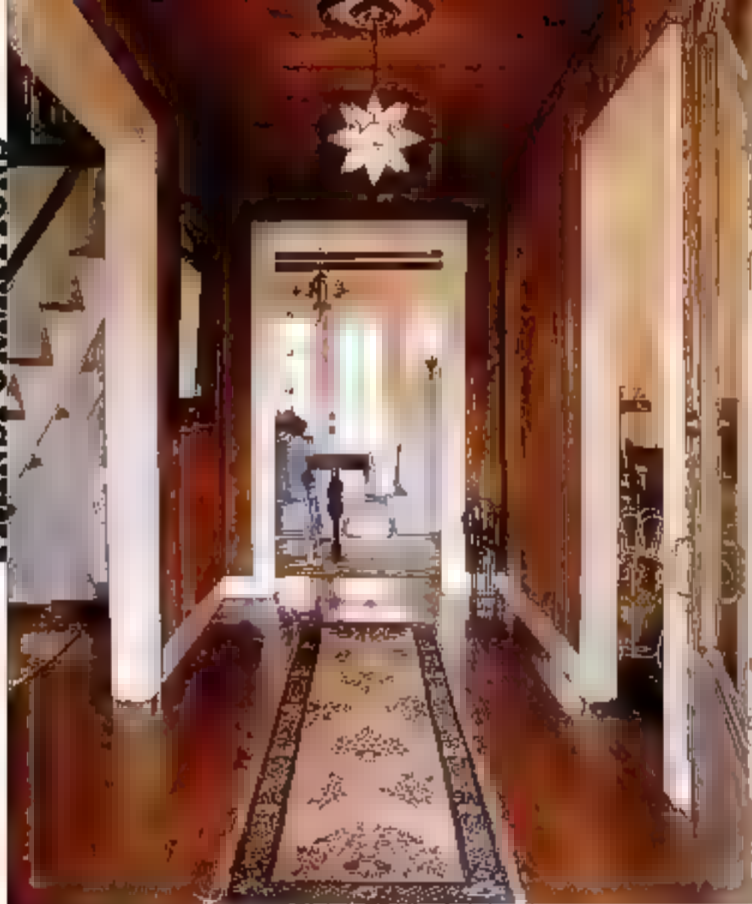
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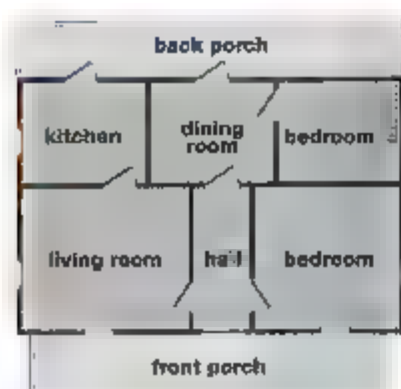
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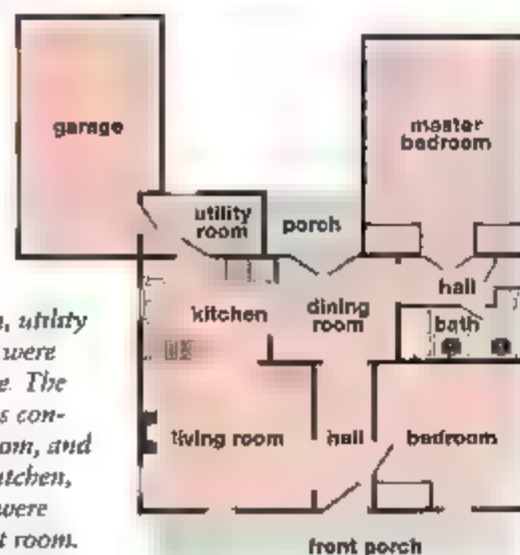


The Plans

before



after



A master bedroom, utility room, and garage were added to the house. The back bedroom was converted to a bathroom, and the living room, kitchen, and dining room were united into a great room. New stairs link the first floor to a loft.

KEEPING A RUSTIC LOOK

Martha Ann's talent for making the most of salvaged materials is evident throughout the house. In the bathroom, she created a weathered look by rubbing a candle on the original floorboards to prevent the white paint she then applied from adhering evenly. For a rustic effect in the master bedroom, she covered the cathedral ceiling with lumber saved from three of the demolished outbuildings on the property and coated them with low-gloss polyurethane to play up the grain in the vintage wood. The peak of the great room's gable end is also paneled with whitewashed salvaged boards.

While uncovering the old hemlock and chestnut walls of the dining room and new hallway took three weeks of scraping with a wire brush to get rid of the vestiges of drywall and layers of wallpaper, the faux-finishing in the kitchen went without a hitch. Martha Ann

applied barn-red paint to raw stock cabinets and topped it with a glaze. Set against new slate counters, the cabinets give the kitchen a warm glow. A slate-topped breakfast bar separates the kitchen from the living room, where the new fireplace provides a focal point for the great room. Faced with local river rock, the fireplace was the first

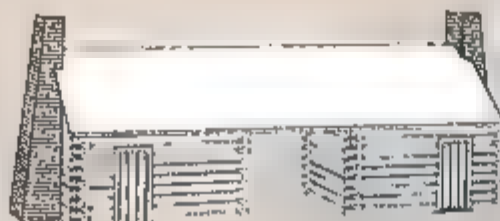
Ramford style firebox that the young masons Martha Ann hired had ever built. Gerald, as an allergist, was especially concerned that the fireplace draw well, and he provided the dimensions for the tall, shallow Ramford design that's renowned for its efficient draw and abundant reflected heat. Delighted with their success, one of the masonry crew exclaimed, "You're going to have to nail your furniture down, because this chimney is going to suck it right up!"

Just as Martha Ann had envisioned, the couple's children and friends love hanging out around the fire in the winter. And when the weather's warm, the view of the valley from the front porch can't be beat. "There are only two things the house doesn't have—a television and a telephone," says Martha Ann. "That's intentional. We come here to relax." ■

DOGTROT ARCHITECTURE

A dominant design in the mountains and "hollers" of the Southeast from the early 1800s through the 1930s, dogtrot homes consisted of two log cabins separated by an open-air passage, or "dog run," and covered with a continuous gabled roof.

The breezeway offered a sheltered work and play space. Combined with wide porches and deep overhangs, it was particularly effective in providing shade and catching breezes in hot, humid weather. Introduced by pioneers from the deep South, the style is an important example of American vernacular architecture that is still studied today for its effectiveness in passive ventilation. Later versions were sheathed in clapboards, and the breezeway was often enclosed as a center hall.



ILLUSTRATIONS: JAM WORPOLE

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TOH's 25th season will see the Shingle-style barn turned into a cottage for Jacqueline Buckley (second from left) and her husband, Len. Their daughter and son-in-law, Janet and Jeff Bernard (right), live in the main house with their 12-year-old son, Andrew (left).

BARN STORMING

The new TV project will turn a backyard storage shed into a cozy cottage

BY DAN DICLERICO
PHOTOGRAPHS BY SUSIE CUSHNER

This Old House kicks off its 25th season with a trip to the shed out back—specifically, to an 1894 gambrel-roofed storage barn in Concord, Massachusetts. The small Shingle-style outbuilding belongs to Janet and Jeff Bernard and currently holds “garden tools, bicycles, and all the thousands of things we haven’t known what to do with,” says Janet. With the help of the TOH crew, the couple plans to turn the two-story, 20-by-26-foot structure into an “in-law” apartment for Janet’s parents, longtime

Concord residents Jacqueline and Len Buckley.

The historic Boston suburb of Concord is the perfect setting for the show’s milestone season. It’s here that the Battles of Lexington and Concord sparked the Revolutionary War in April 1775. In the 19th century, literary lions such as Louisa May Alcott, Nathaniel Hawthorne, and Ralph Waldo Emerson called the bucolic New England town home.

The project itself has local historical significance. The house and barn were built by Sam Staples, well known to locals for the many positions he held in Concord over the years, including barkeep, tax collector, and jailer. In 1846, he offered to pay Henry David Thoreau’s taxes rather than lock up the *Walden* author, who was withholding his money to protest slavery and the Mexican War (Thoreau refused the offer and was jailed).

Like many similar outbuildings on the street, the Bernards’ barn originally housed animals, mainly chickens and horses. Turning the uninsulated, unheated space into comfortable living quarters will be a challenge for TOH general contractor Tom Silva and local architect Holly Cratsley. “You can still see the teeth marks from where horses used to chew on the walls,” says Cratsley.

Janet and Jeffrey’s budget allows for a long-overdue backyard makeover as well. “We’ve had the year of the vacation, the year of the new car,” says Janet. “This will be the year of the yard.” Plans for the three-quarter-acre lot include expanding the driveway and parking area, creating a brick patio, and relocating a century-old Concord grapevine that’s growing on an arbor behind the house.

For now, though, the Bernards are just excited to finally make the barn a home, and their enthusiasm is matched by the TOH crew’s. Says Tom, “This is a great little building, and it’s going to make a great little dwelling place. I can’t wait to get started.”

Go behind the scenes at the Concord cottage Watch the work on live Web cams, meet the homeowners, and get the inside story on the products used. Go to www.thisoldhouse.com or America Online Keyword: **This Old House**.



The barn’s second-floor hayloft (above), now used for storage, will become a bedroom and bathroom with sloped ceilings. The first floor will house a kitchen, living room, dining room, and half bath.



Now's the best time to spruce up your yard

get ready for fall

"I don't know why people don't do more yard work in September," says *This Old House* landscape contractor Roger Cook. "Fall is the absolute best time to get things done, and it gives you a head start on spring." For most

of the country, autumn's moderate temperatures and plentiful rainfall offer the year's best gardening conditions. What's more, many plants are in a phase of intense root growth, which makes fall a great time to plant, transplant, and feed them. So when the first hint of cool air sweeps through your yard—from late August to early October, depending on your latitude and altitude—here's what you can do to dress up your landscape and lay the groundwork for a lush lawn and beautiful flower beds come spring.



When *This Old House* landscape contractor Roger Cook takes a break from raking fall leaves, he capitalizes on autumn's cooler weather to groom the lawn, plant perennials, and prune trees and shrubs.

Lawn "To grow a lawn that greens up naturally each spring and that resists drought and disease, you need to foster a strong root system," says Roger. This requires annual maintenance—best done in the fall when weeds aren't likely to sprout.

AERATE: Constant trampling by people, pets, and lawn mowers compacts the soil beneath lawns and prevents air, moisture, and nutrients from penetrating to the roots. If water puddles on top of the turf after a rain, it's time to aerate. For a small lawn, use a garden fork to punch holes in the soil every few inches. To treat a larger area, rent a walk-behind aerator at your local garden center. (You can save money by splitting the rental costs with a neighbor.) These gas-powered machines have hollow teeth mounted underneath that pierce the turf and pull up small plugs of earth as they roll along. To protect sprinkler heads, be sure to mark and avoid them. Afterward, use a flat shovel to flick a light coating of a sand-and-compost mix over the turf; it will settle into the holes and help improve drainage further.

FEED: After the weekly mowings necessitated by summer's speedy growing cycle, fall's slower growth rates can be a relief. But there's still lots of activity going on underground. "Grass roots keep on growing until the ground gets down to around 40 degrees," says Roger, "so this is a good time to nourish them." Use a spreader to apply fertilizer to the lawn, once at the beginning of the fall season and again just before the first frost. Roger prefers a high-phosphorus mix, like 12-25-12 (the three numbers denote, in order, the ratio of nitrogen, phosphorus, and potassium in the fertilizer). This mix stimulates root growth rather than greenery.

SEED: Planting new areas, reseeding bare patches, and overseeding sparse ones now gives the grass a chance to establish itself without having to compete with weeds, which tend to germinate in the spring. Roger suggests not buying the cheapest grass seed at the nursery. Instead, look for one that contains less than 0.5 percent weed seed



and comprises a mix of several different grass types and named varieties (e.g., 'Alene' Kentucky bluegrass or 'Wizard' perennial ryegrass). "That way, if disease affects one, you'll still have a good-looking lawn," he says. Also, check the label to see that the seed was harvested no earlier than the previous year. Before sowing, loosen the soil to a depth of 4 to 6 inches with a small tiller or spade and add a lime fertilizer. Then, after seeding, scratch the planting area with a rake to ensure that the seed will come into contact with earth. Water daily.

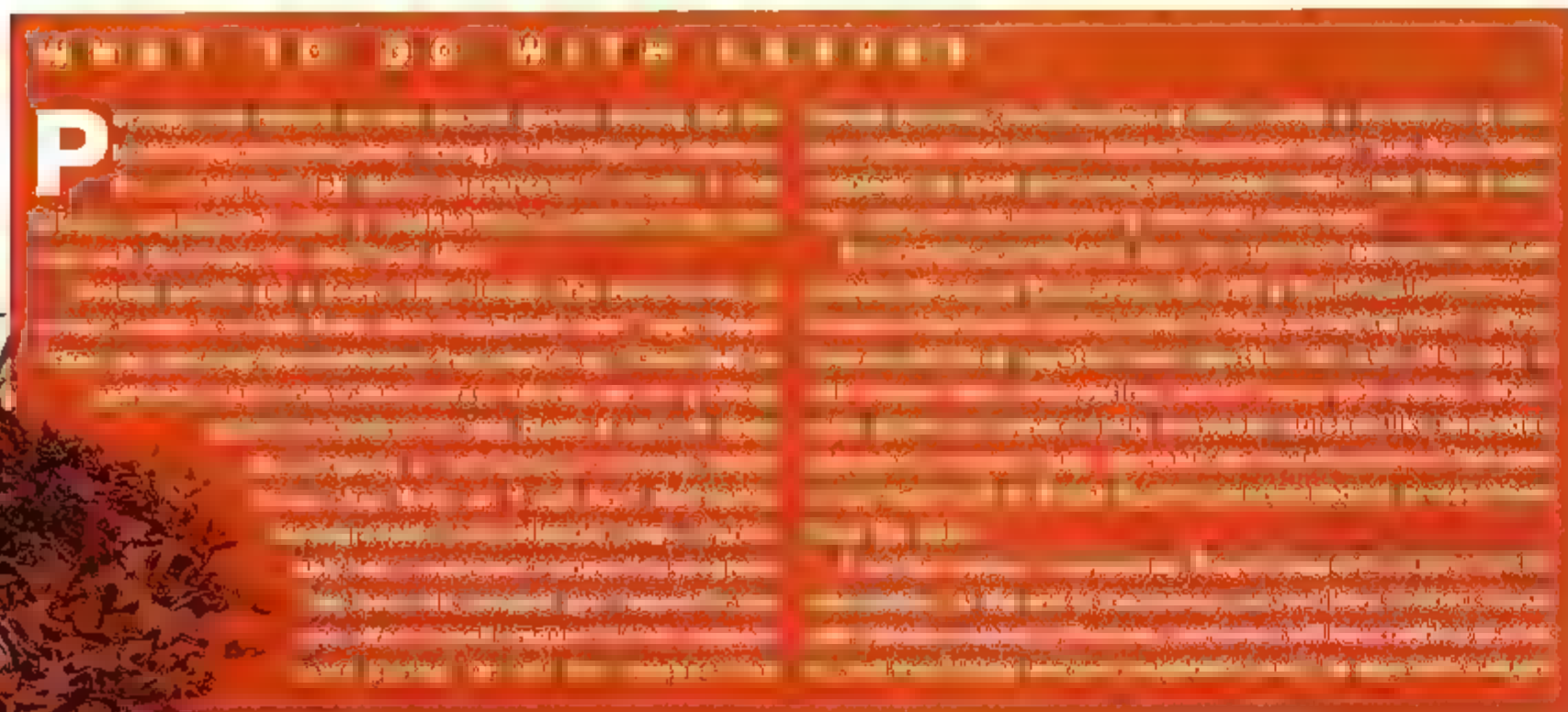


PHOTO (TOP RIGHT) ANDREA CUNNEFF



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Trees & Shrubs

Cooler temperatures are perfect for planting or transplanting large specimens because roots settle in without getting parched. Fall is also an ideal time for pruning some of the trees and shrubs in your yard.



Before planting a shrub, make sure the hole is at least twice the diameter of the root ball and not quite as deep.

PLANT AND TRANSPLANT: "Like grass, most trees and shrubs stop producing leaves by the end of summer and instead direct their energy toward developing roots," says Roger. So specimens planted in the fall begin establishing themselves as soon as they're in the ground. Plus, autumn's moderate temperatures and moisture levels won't harm roots temporarily residing in burlap or plastic pots. Complete all planting, particularly where the snow flies, by the middle of October. Later in the fall, you can protect new evergreen plantings from their first dry, cold season by coating the leaves with an anti-desiccant spray, a waxy coating that limits evaporation and locks in moisture. (Such sprays can be harmful to some plants, including arborvitae and blue spruce; check the product label for a list of recommended applications.) If wind or heavy snow is a problem, wrap small trees and shrubs in several layers of burlap or shelter them under a simple plywood lean to.

PRUNE: Autumn is a good time to prune deciduous trees because you can see the limb structure clearly once the leaves are gone. Concentrate on removing crossing or rubbing branches and suckers, which rob healthy limbs of nutrients, and dead branches, which increase the risk of wind damage. (If you have a hard time spotting dead branches when everything is bare, lightly scratch them to see if they are green.) Some trees, such as maples and birches, have sap that bleeds heavily in the spring, so pruning them in the fall is both healthier for the tree and neater for your tools. You can also safely prune summer-flowering shrubs like rose-of-Sharon, mimosa, and summersweet because they don't form next season's buds until the following spring.

FEED AND WATER: Unlike lawn food, tree and shrub fertilizer needs time to break down before it can be completely absorbed. "You want a balanced slow-release fertilizer that feeds the roots throughout the fall and is still around to fuel the stems and leaves next spring," says Roger. (The exact fertilizer ratio depends on where you live and whether the specimens are deciduous or evergreen; ask your local nursery or gardening club for recommendations.) To help fertilizer reach the roots of large trees, Roger uses a crowbar to punch a 12- to 16-inch-deep hole every 2 to 3 feet outside the tree's drip line—the outer edge of the canopy, which mirrors the circumference of the roots. Follow the formula printed on the bag to determine the appropriate amount of fertilizer, then mix the food with a few shovelfuls of sand or pea gravel and use the mixture to fill the holes. In late fall, after the leaves have all fallen, top dress around trees and shrubs with more fertilizer, and water thoroughly; this will help sustain them through the winter. When you're finished, remember to drain the hose, bring it inside, and pack it away.



PHOTO: (RIGHT) BRIAN WILDER



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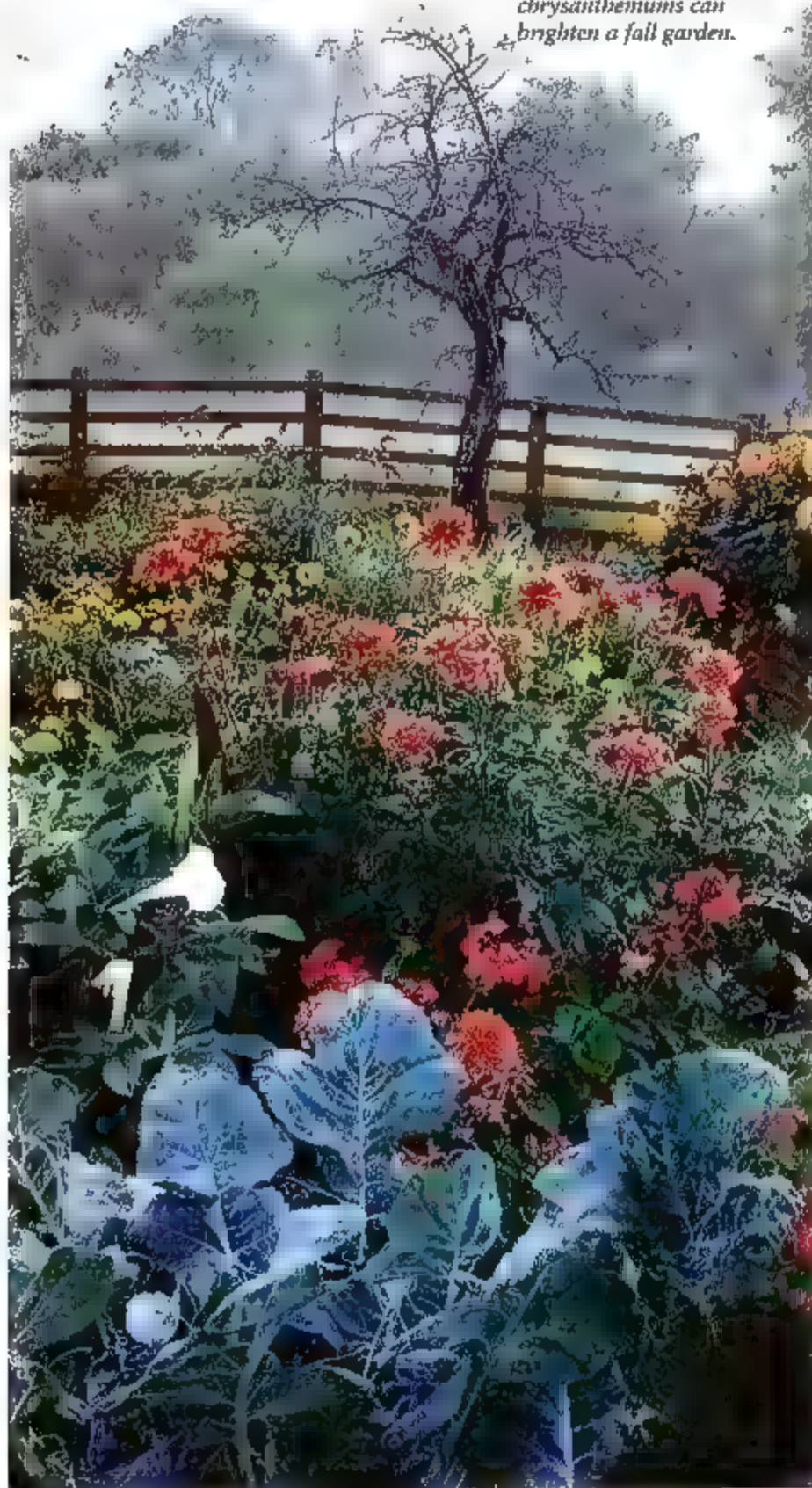
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Annuals & Perennials

Perennials planted in early fall have time to take root before the first frost hits. And there are plenty of cool-hardy annuals that can be put in flower beds to create a striking autumn show.

Cold-tolerant annuals like ornamental kale, asters, and chrysanthemums can brighten a fall garden.



CLEAN UP BEDS: Spent annuals like marigolds and geraniums should be pulled from their beds, while most perennials that have finished blooming—including black-eyed Susans, purple coneflowers, and astilbe—should be cut back to the ground. This gives the landscape a neater appearance, saves you the trouble of pruning in the sandy spring, and allows the plants to focus their energy on root growth. “But I leave certain plants unpruned to provide visual interest for winter,” says Roger. “Perovskia, sedum, and plume-y ornamental grasses look interesting when they get some ice or snow on them.”

PLANT: Since most homeowners buy their plants in the spring, fall shopping means that nursery staff will have more time to assist you and that deliveries will happen quickly. “Nurseries dig up fresh stock in the fall,” says Roger, so there should be plenty of healthy full-priced plants to choose from, including fall varieties of annuals like dianthus, snapdragons, poinsettias, calendula, and ornamental cabbage. You may also find discount prices on some plants, but be wary. “I would inspect anything that’s on sale to make sure it’s healthy and strong and that next year’s buds are set,” says Roger. (Many stores, incidentally, don’t provide a warranty for marked-down items.) After putting in the plants, feed them with a balanced fertilizer containing mycorrhizal fungi, which help roots absorb nutrients. Then mulch over the roots with compost, finely ground pine bark, or ground leaves (see “What to Do With Leaves,” page 94) to protect them from frost, which can pop new plants right out of the ground.

PUT IN SPRING BULBS: Crocuses, daffodils, tulips, and other traditional harbingers of spring must be planted in the fall because they need winter’s chill to trigger their growth. Many bulbs come in early-, middle-, and late-blooming varieties, says Roger. “So rather than buying a hundred of one kind, buy 30 of each, and you’ll get six weeks of flowers instead of just two.” Note that each type of bulb must be planted at a specific depth. After digging a hole, fill the bottom with a mixture of soil and a small amount of 5-10-5 or 10-6-4 fertilizer—too much can burn the roots. Then set the bulbs in place, cover with more soil, and plant over with fall annuals. Come spring, photograph the bulbs in flower, so you’ll know what color bulbs to add and where to place them when planting the garden next fall. ■

For more fall chores, including putting your lawn mower to bed Go to www.thisoldhouse.com or **America Online Keyword: This Old House** and type “lawn mower” in the search box.



Before planting, preview the layout by arranging the specimens while they're still in pots.

PHOTOS (LEFT) © JUDY WHITE/GARDENPHOTOS.COM (RIGHT) KINDRA CLINEFF

WINDOW WORKSHOP

When remodeling or expansion leads to the need for new windows, take the time to explore your options.

If you haven't looked into the world of windows lately, you may be impressed at their advances in style, energy-efficiency and durability. Scan a few brands and you'll find not only an enormous range of sizes and shapes but also many tantalizing ways of combining window units to make

dramatic yet sturdy expanses of glass. Equally remarkable are today's high-tech glazing systems, which far outperform mere double-pane windows in delivering two to five times more insulation value to minimize heat loss in cold weather and block heat gain during the warm months. Tighter closure and durable weatherstripping have cut air leakage to almost nothing, while improved installation techniques not only keep out wind and weather but also help to ensure a long, trouble-free service life.

When you start looking for ways to improve the view, bring in more light or simply save energy, it'll quickly become clear that windows can be tailored to meet your specific wants and needs. Less evident, however, is that not all windows are created equal from the standpoint of quality, that proper installation is crucial and that you can get state-of-the-art window performance without getting rid of the windows you have. The following information will help you make the right choices.

WINDOW SHOPPING

If you're about to renovate or expand, chances are you'll be looking for new windows. It'll be easy to find the style and size you want, but it'll take some extra study to make sure you're getting superior quality and performance. Here's what to look for.

Material options

- **Wood** — The traditional choice remains a very good one. It's durable and a good insulator. Order it primed for on-site painting. Wood windows also come with exterior trim already installed.
- **Clad wood** — For reduced maintenance, aluminum or vinyl is wrapped around the exterior frame and sash. Both claddings come in standard colors, although aluminum can be custom-colored.

Continued on reverse



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WINDOW SHOPPING

Material options, continued

Vinyl → Lower cost may tempt you to choose extruded vinyl. It comes in a limited range of colors; it never needs painting, but you may end up deciding on how vinyl looks compared to wood.

Composite → Windows made of wood dust and recycled vinyl look like wood and may resist weathering and rot even better, but they won't be as easy to find as the other types, and they'll likely cost the most.

Efficient glass

Besides offering impressive energy efficiency, today's window glazings can also be tailored to your climate and even to different walls of the same house. To learn more about glazing options, go to www.efficientwindows.org and check with local window dealers.

In any climate, you'll want low-E-coated, argon-filled, double-glazed windows, which have a U-factor (resistance to heat loss) of .4 or less (less is better).

In very cold climates, you can order up glazing that has a heat-reflecting film.

suspended between two layers of glass, resulting in a U-factor of .11 or less.

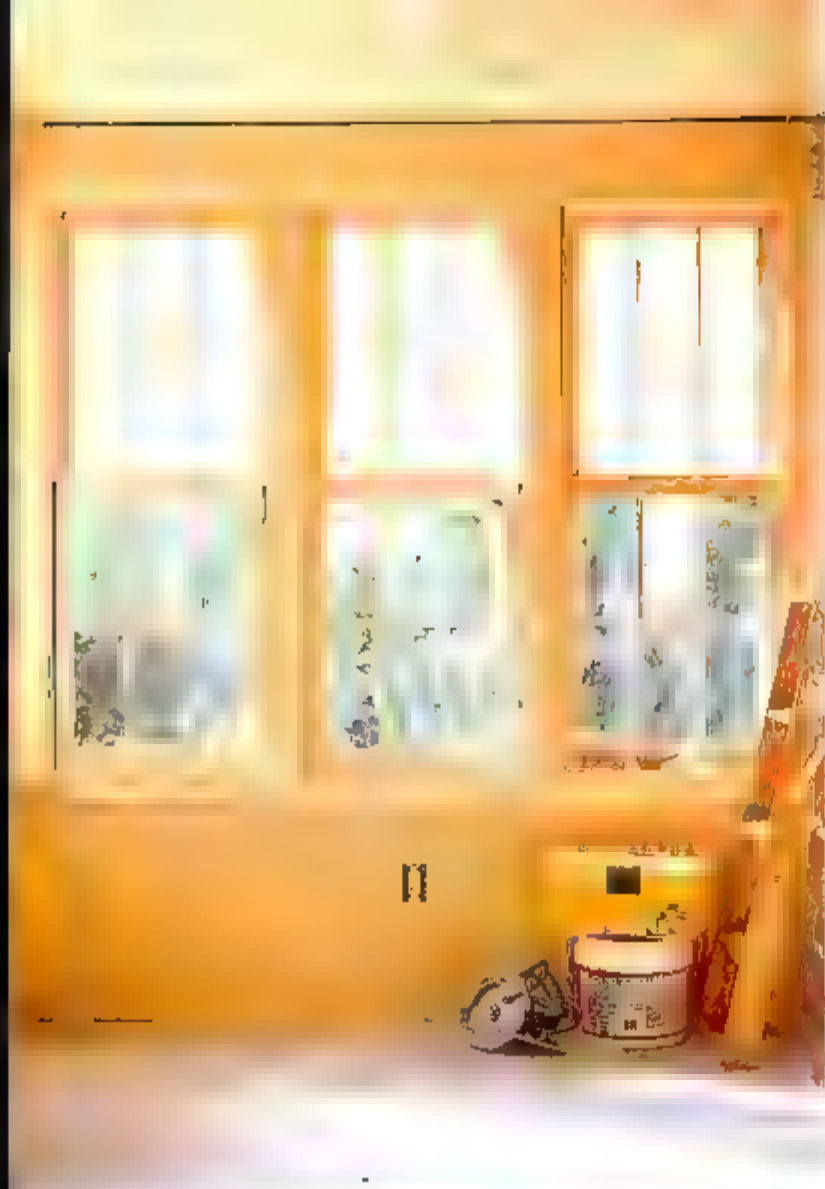
For warm climates where cooling matters most, specialized coatings and films provide a high shading coefficient to minimize unwanted heat gain from the sun.

Quality checkpoints

Despite all the high-tech features built into today's windows, you don't have to be a scientist to separate the best from the rest.

Windows that carry the EPA's Energy Star label (www.energystar.gov) meet today's requirements for energy efficiency. Another label, from the National Fenestration Rating Council (www.nfrc.org), allows you to compare their tested performance (U factor, shading coefficient, air leakage).

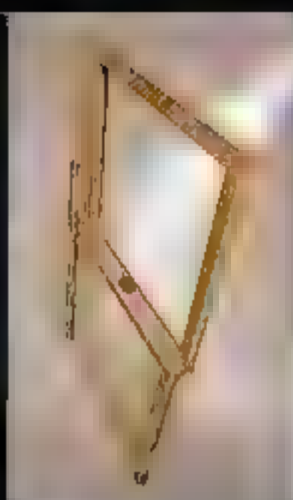
All corners and other joints in a well-made window are tight. In wood windows, an extra-thick frame, 1" instead of 3/4" is desirable, and in any operable window, such as a double-hung or casement, the sash should operate easily, yet close and lock tightly.



NEW SASH FOR OLD WINDOWS

Window manufacturers have long recognized that the main problem with old windows are single-glazed sash that are often loose-fitting and in poor condition, while the frames they ride in are for the most part fine. That's why many manufacturers offer sash-only replacement systems that result in windows that look about as good and perform almost as well as an entirely new unit. Here's how sash replacement works:

- The frame is measured for the new sash, which can be ordered with the same high-efficiency glazings available with new windows.
- When the new sash arrives, the old sash, window weights and other parts are removed, but the frame is left in place. Side cavities that held weights are filled with fiberglass insulation or expanding foam sealant.
- For maximum energy efficiency, the interior trim is carefully removed and the gap between the frame and the wall framing is filled with a low-expansion foam sealant. Then the trim is reinstalled.
- Sash channels are fastened to the sides of the frame, and the sash themselves are installed. In most of these systems, the sash can tilt in for easy cleaning.



PRO-GRADE INSTALLATION

A proper installation is all about key details that fight off wind and weather and help to maintain a window's performance and durability. These steps will lead to a quality result:

- The rough opening should be wrapped with builder's felt or a self-adhering waterproof roofing membrane.
- The frame is set into the opening and adjusted to be perfectly square, plumb and level. The distance between the frame sides is measured to make sure there is no bowing that would result in overly tight or loose sash.
- After the frame is fastened in place, the top must be flashed with a copper or aluminum cap; to be effective, it must extend up under the siding.
- The gap between the window frame and the wall framing should be filled with a non-expanding foam sealant.



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BY MARK FEIRER

Most people know how to paint—up to a point. It's easy to get a "good enough" paint job. But there's a world of difference between a paint job that looks just okay and one that looks spectacular. Like one of Jim Clark's, for example. Up close, it's a seamless sheen, with no drips, runs, or brush strokes. But to really appreciate a Clark paint job, you have to touch it. The flawless surface feels as smooth as a sheet of glass.

"It's what you don't see in Jim's work that makes what you do see look so good," says *This Old House* general contractor Tom Silva, who watched Clark in action on recent project houses in

Manchester and Winchester, Massachusetts. What you don't see is the meticulous preparation: patching, sanding, vacuuming, and making sure everything is just so before he ever touches a brush. Not every surface deserves such lavish attention. But anyone who aspires to do more than slap paint on a wall can learn from Clark's 20 years of experience.

"If homeowners did half of what we do, they'd end up with a decent paint job," he says. And if you simply follow his advice, you'll end up with better-looking, longer-lasting results than you ever thought possible.

INTERIOR **setup and preparation**

Preparing a surface can eat up 75 percent of the time spent on any painting project, along with a hefty portion of the budget. But Clark can't overstate the importance of doing it right. "It's like plumb-and-square to a carpenter," he says—the essential first step on which all others depend. Here are a handful of the ways he makes the job faster and easier. (For his complete prep routine, see "Step by Step," below.)

USE THE RIGHT KIND OF MASKING TAPE (AND USE IT SPARINGLY)

Common tan masking tape is fine for packages, but on walls and woodwork it leaves an adhesive residue. Blue painter's tape, sold at paint-supply stores, peels off cleanly even after several days.

Many homeowners overuse tape, Clark says. "By the time you tape off a bunch of window panes, you could have painted the entire window." Professional painters use tape sparingly, and only to protect surfaces. Using tape to ensure a straight paint edge is time-consuming and often ineffective—paint can easily ooze under the tape. "When you peel off the tape, all you get for your trouble is an ugly, ragged edge." Straight lines come from a steady hand, not from tape.

CHOOSE COLORS WISELY

Most homeowners struggle to pick colors from tiny samples. Some buy a quart of each likely color and paint a swatch of it on the wall. "But it's not always easy to paint over swatches, particularly if they're dark," Clark says. Instead, he buys large sheets of 3/16-inch foam board from an art supply store and paints those. The sheets hang easily on the wall, and the smooth, white surface approximates primer, so the color is accurately represented.

STOCK UP ON SANDPAPER

Buy aluminum oxide sandpaper by the box—it's cheaper that way, and having plenty around means you won't hesitate to swap a tired scrap for a fresh one. "We use tons of 120-grit and 220-grit," Clark says. Before the job starts, he cuts at least a dozen 9-by-11-inch sheets of both grits into quarter-sheet and half-sheet sizes to suit sanding blocks and power sanders. The best way to cut sandpaper quickly and accurately: Stack several sheets grit-side down, then slice through the paper backing with a utility knife guided by a straightedge.

KNOCK OFF SHARP EDGES

Paint doesn't adhere well to sharp corners and edges, but timeworn woodwork rarely has an edge worth worrying about. New work, such as the sawn edge of a doorjamb or the lip of a window stool, is more likely to need attention. Clark locates these areas by feebly, lightly brushing his fingertips across suspect edges to reveal any that need a few quick swipes with 120-grit sandpaper.

Chipped paint is another trouble spot. "Wherever there's a chip, there's a sharp edge," Clark says. Painting over it looks awful and weakens the paint bond in that area. So he feathers the edges with 120-grit. "You know you've done a nice job when you can't feel the difference between one area and another."

PROTECT WINDOW GLAZING

Window muntins are particularly tedious to sand, but Clark avoids power sanders here because they're hard to control on narrow surfaces and can easily erase an elegant profile. Also, sandpaper scratches on glass can't be removed. So on y hand sanding will do. To further protect glazing, Clark folds a small piece of sandpaper in half and strokes the muntins as his fingers slide against the glazing. "As long as my fingers touch the glass," he explains, "the sandpaper can't."

STEP BY STEP. INTERIOR SETUP & PREP

- 1 Cover or remove furniture and light fixtures. Remove window hardware, light-switch covers, and receptacle plates. Remove doors.
- 2 Protect hard floors with rosin paper, carpet with 4-mil plastic and tarps.
- 3 Mask off hardware that can't be removed. Tape over light switches and

- receptacles. Mask off woodwork that will not be painted.
- 4 Repair damaged wall and ceiling surfaces.
- 5 Sand all wall surfaces.
- 6 Repair or replace damaged trim. Secure loose trim and fill nail holes.
- 7 Sand all surfaces of all trim.

- 8 Vacuum walls, ceilings, and trim.
- 9 Wipe down all surfaces, including trim, with clean rags barely moistened by mineral spirits (for oil paint) or water (for latex). To avoid fires, dunk rags that have been used with mineral spirits in water or hang outdoors until solvent evaporates, then discard.

MASTER THE POLE SANDER

For sanding walls, Clark uses a pole sander loaded with 220-grit paper, sweeping in wide arcs across the wall. A simple pole sander, however, is a tricky tool to tame—the sanding pad has a discouraging tendency to flop forward and back, gouging the wall surface. The solution, Clark says, is to tilt the pad diagonally, then sweep the pole from side to side. This keeps the pad steady.

IF YOU SKIP STEPS, MAKE SURE THEY'RE THE RIGHT ONES

Not every surface deserves painting perfection, nor can every budget afford it. To save time and labor, the first thing Clark suggests is switching from oil-based paint (his preference, for its glossy

smoothness) to latex, which covers better and is easier to touch up. "You can usually do just fine with one finish coat instead of two," he says. One step Clark never skips, though, is lightly sanding surfaces between coats. "It makes a tremendous difference in the look of the job."

BUST THE DUST

Clark vacuums every speck of dust after sanding walls and woodwork. To further control dust, he sets up a negative-air filter near a window. The high-capacity, portable air handler, available from rental yards, sucks up room air and runs it through a HEPA filter before dumping the sifted exhaust outdoors. It also reduces the room's air pressure just enough to draw air from adjoining spaces, which keeps dust from escaping.

REPAIRING SURFACES

Nothing is more important for making rooms look new again than repairing surfaces. Here's how to do it.

WOODWORK: Fill small holes with spackling compound, which dries quickly and sands easily. Clark applies it with his finger, and overfills the hole. "If you don't," he says, "you'll be filling holes over and over again because it shrinks as it dries." To fill dents, he uses Bondo's two-part auto-body putty. "It takes more time to mix up," he says, "but it'll never pop out and have to be redone later."

PLASTER: Patch minor damage with lightweight joint compound. Old horsehair plaster and any other surface covered with small pits should be skim-coated. "You just want to fill in the pits," Clark says, "so wipe on the compound, skim off the excess, then sand it smooth when it's dry." Moderate-size holes can be filled with a synthetic patching product; Clark likes Durabond 90. For large holes, he prefers plaster of paris. But it doesn't sand well, so he fills the hole partway, waits for the material to cure, and tops it off with joint compound.

DRYWALL: Joint compound is fine for small holes and minor damage. Large holes must be patched with drywall scraps, then the seams must be taped. Joint tape is another area that often requires attention. Clark pulls off any loose tape, rakes out the old joint compound with a scraper, then refills and retapes the joint as if it were new. Fixing nail pops by just pounding the nail back in and topping it with joint compound solves nothing—the nail will just pop out again later, taking the patch with it. Instead, Clark drives a screw into the framing on each side of the loose fastener, then removes the fastener and fills the area with joint compound.

To patch dents in drywall, apply lightweight joint compound with a putty knife, then sand the surface smooth.



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INTERIOR priming

A primer is simply a type of paint formulated with more of what helps paint grip and less of what gives it color. Think of it as the foundation that helps finish coats hold better and last longer. "Primer is as important as paint," Clark says, "and for interior work you have to be just as careful with the brush strokes." Drips and uneven brush strokes telegraph through to the topcoat and make it look sloppy, no matter how carefully the paint is applied.

DE-FUZZ NEW ROLLERS

"Loose fuzz really ruins a wall," says Clark. Inexpensive roller covers tend to shed more than high-quality ones, but even the best covers should be vacuumed or patted down with the sticky side of painter's masking tape to remove any fuzz that could end up in the paint—and on the wall.

HEAD OFF CRACKS

After walls and trim are primed, Clark runs a narrow bead of caulk along every joint between trim and wall, along joints in trim, and wherever one material meets another. Caulk erases gaps and smooths sharp inside corners, giving paint a bet-

ter chance of surviving crack-free at these intersection sections. After squeezing caulk into a joint, Clark smooths it with a finger and wipes off any excess with a barely damp cotton rag. "Make the smallest opening you can in the caulk tube nozzle so you won't smear the stuff when you wipe off the excess." Paintable acrylic latex caulk has the best working characteristics for this kind of work.

Clark sometimes caulks the wall/ceiling intersection, a step that may at first seem perplexing. "That corner may look smooth, but the joint compound is often covered with tiny pits. Caulk fills in the gaps to give you something smooth to work on," he says.

GIVE PRIMED WALLS THE ONCE-OVER

Primer has a remarkable ability to highlight flaws in a surface, so Clark always checks again for roughness or damage after walls and trim have been primed. "Most people are so anxious to paint at this stage that they rarely take the time to fix, sand, and reprime minor damage they missed earlier," he says. "But it doesn't take much time, and it really boosts the quality of the final job."

Another flaw-finder is Clark's 500-watt halogen work light. He shines it across walls at an oblique angle; shadows highlight any area that needs attention.



MAKE PRIMER EASY TO SEE

To make primer show up against white walls, Clark adds a few drops of colorant (sold at paint stores) in the same shade as the finish coat. Tinted primer serves another purpose, too: If the client's budget is tight, Clark can get away with one finish coat instead of the usual two.

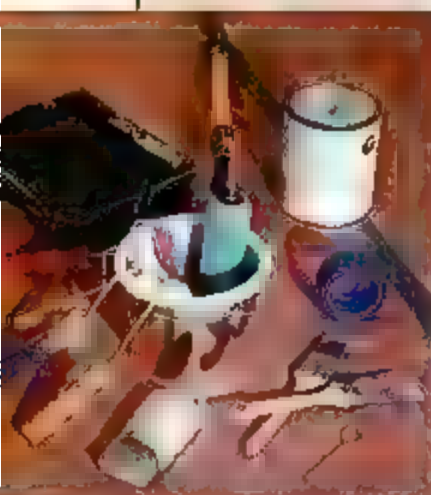
The same trick works for spackling compound. When making repairs to white walls, Clark adds just a touch of colorant, making it easy to find for final sanding and repriming.

For hundreds of pages on paint, from choosing colors to picking the right brush. Go to www.thisoldhouse.com or America Online Keyword: This Old House and type "paint" in the search box.

STEP BY STEP: INTERIOR PRIMING

- 1 Spot-prime repaired areas and any bare wood. Spot-prime ceiling stains.
- 2 Apply primer to walls, ceiling, and trim.
- 3 When primer is dry, caulk all joints between trim and wall surfaces.
- 4 Check all surfaces for additional repair needs. Then fill, sand, vacuum, and prime these areas.

FIVE ESSENTIAL TOOLS



"A GOOD BRUSH is a great ten-dollar investment," Clark says. He prefers brushes with synthetic bristles for both oil- and water-based paints because their tips won't break off (as natural bristles do) and end up in the paint; they also don't wear out as fast. For painting trim, Clark recommends a 2- or 2½-inch-wide sash brush, which has angled bristles. "The tip of a sash brush doesn't carry much paint, but it helps to draw the line when you're cutting in." Better brushes have wood handles.

ROLLER COVERS are the fuzzy cylinders that spread paint on a wall. Match the nap of the roller to the wall's surface texture: ⅜-inch nap for smooth drywall and plaster surfaces, ½-inch nap or greater for textured surfaces.

A ROLLER FRAME is the L-shaped device that holds the roller cover. Good ones don't flex during use and compromise your control. The cage should have metal fins on the ends to keep a paint-saturated roller cover from sliding off. Most handles are plastic, but better frames have reinforced sockets that won't crack or loosen when used with an extension handle.

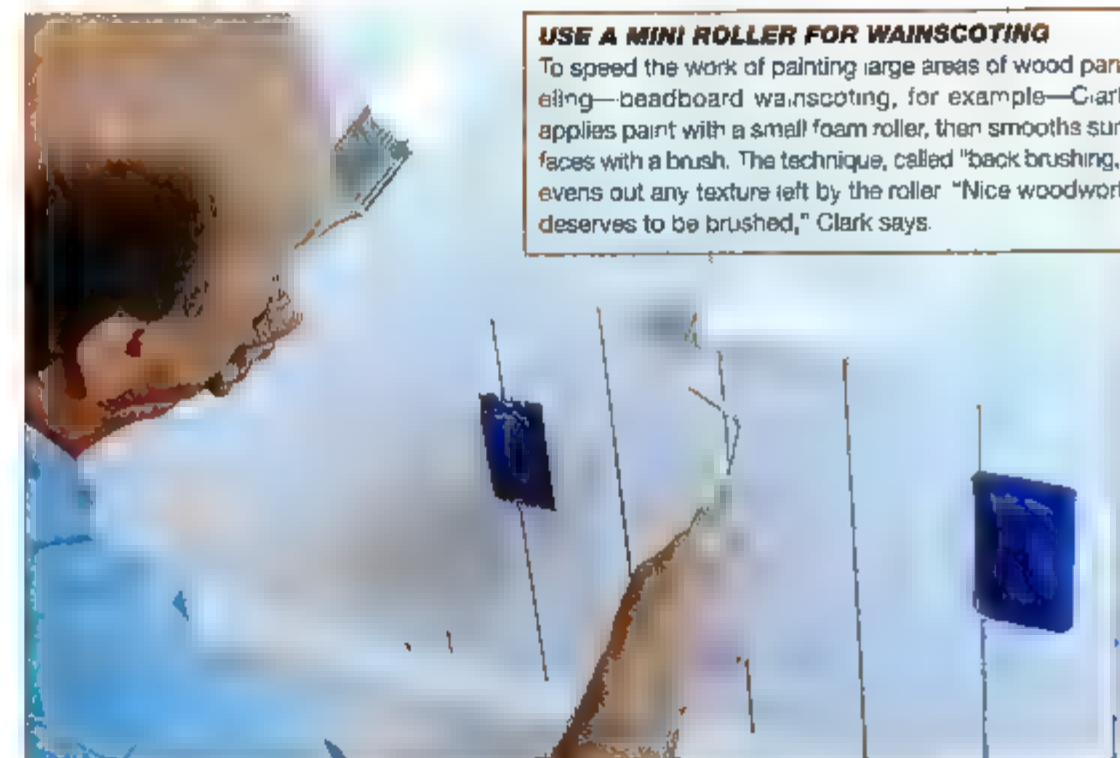
A TELESCOPING EXTENSION HANDLE is "one of the best painting investments you can make," Clark says. Screwed into the handle of a roller frame, the extension reduces wrist strain, lets you stand back to gauge paint coverage as you roll walls, eases back strain, and keeps you clear of paint splatter. And anything that keeps you off a stepladder improves safety and saves time.

A GOOD VACUUM CLEANER is a necessity. Clark fits his with a natural-bristle cup brush for cleaning dust off glass and woodwork. "Natural bristles eventually wear out, but there's nothing better for dust pickup. Nylon brushes just slide over surfaces without picking up the really fine stuff." Vacuums equipped with a HEPA filter capture even the finest dust before it can be recirculated to the room.

PHOTOS: ALLAN PENN

INTERIOR painting

"The reward for spending so much time prepping, sanding and patching a wall is finally getting to paint it," Clark says. After the hard work of preparation, it's downright thrilling to dip a fresh brush into a creamy pool of vivid color.



USE A MINI ROLLER FOR WAINSCOTING

To speed the work of painting large areas of wood paneling—beadboard wainscoting, for example—Clark applies paint with a small foam roller, then smooths surfaces with a brush. The technique, called "back brushing," evens out any texture left by the roller. "Nice woodwork deserves to be brushed," Clark says.

NEVER PAINT DIRECTLY FROM THE CAN

"You won't believe how much better you'll paint if this is the only advice you take from me," says Clark. Painting from a can inevitably ends up as a drippy mess, and it guarantees that you'll contaminate the paint with dried or thickened globs pulled off the can's edge. Clark uses an easy-to-tote metal bucket or tray, fitted with a disposable plastic liner that has a small edge just right for tapping excess paint off a brush or roller.

BEAT THE HEAT

"When you have to work on a very hot day," Clark says, "add a conditioner to your paint," such as Penetrol for oil-based or Floetrol for latex. Unlike thinners, these additives (available at paint stores) won't reduce the paint's coverage. But in hot weather, they will improve flow and reduce unsightly brush strokes.

TREAT METAL LIKE WOOD

Clark preps, primes, and sands metal surfaces indoors just as he would any other surface. "We paint metal baseboard heaters just as we'd paint trim," he says. "We just paint them more often."

RUN TRIM PAINT ONTO WALLS

To ensure that a narrow band of primer won't show between trim paint and wall paint, Clark over-

laps the trim paint onto the wall slightly, then covers the overlap with wall paint. Cutting linen-white walls into white trim isn't difficult, he says. "But if you're cutting in with white over hunter green, you'll probably have to cut in twice."

CLEAN YOUR BRUSHES, BUT ONLY WHEN YOU HAVE TO

When painting has to be interrupted for more than an hour or so, Clark wraps his brushes tightly in household plastic wrap rather than taking time to clean them. Wrapping a brush prevents air from stiffening the paint, and the bristles will be ready to go as soon as the plastic comes off. A wrapped brush even holds up overnight, though on hot days Clark takes an additional precaution. "We throw wrapped brushes in the refrigerator."

STEP BY STEP: INTERIOR PAINTING

- 1 Cut in around the ceiling, then roll the ceiling.
- 2 Paint trim, then windows and doors.
- 3 Cut in around trim, outlets, and light fixtures. Cut in at inside corners and at ceiling/wall junction.
- 4 Roll paint on walls. (If applying a second coat, sand lightly, vacuum all surfaces, and repeat steps 1–4.)
- 5 Clean painting tools.
- 6 Remove masking; clean paint splatters off window glass and hardware.
- 7 Reinstall hardware, light fixtures, etc. Rehang doors.
- 8 Remove protective plastic and rosin paper; return furniture to original locations.

PHOTOS: ALLAN PENN

BRUSH AND ROLLER BASICS

No room can be completed without a sash brush and a roller. The brush is for painting trim and cutting in on walls. The roller's job is to spread paint quickly and evenly over broad surfaces.

On a wall, cutting in starts the painting process. Cut-in brushwork should never be heavy, Clark says. "Feather the outer edges when the brush is almost empty, so the roller guy doesn't have to waste time rolling out a ridge of paint." Rolling should begin before cut-in areas dry. Otherwise, the brushwork will leave ridges that a roller won't be able to flatten. A good strategy is for one person to cut in as another rolls. When working solo, you might have to cut in and roll one wall at a time in order to maintain wet edges.

When painting with a brush, lightly load it and use steady, back-and-forth strokes over a small area. Then finish the area with a light pass in one direction, using only the tip of the almost dry brush. This "tipping off" erases large brush strokes and aligns small ones, a subtle but orderly detail that marks a good paint job.

When rolling, dip the roller into the paint tray, then roll it repeatedly on the tray's sloped portion to squeeze out the excess and ensure that paint evenly saturates the fibers. This also prevents the cover from dripping en route to the wall. (Evenly spaced lines of paint on the wall indicate an unevenly loaded roller.)

To distribute paint on a wall, roll a large "N" or "W" in a small area (try 3 feet by 4 feet or so to start), then spread the paint using overlapping vertical strokes. Always distribute paint on a dry area, then spread it into a wet area to minimize ridges and ensure an even distribution. But don't touch what's already painted with a loaded brush or roller. "That just overloads the area," Clark says. "If you painted it right to begin with, you shouldn't have to go over it again."

When cutting in, load the brush lightly and hold it at the base of the handle for maximum control.



EXTERIOR **setup, prep, and painting**

Many basic exterior painting techniques are similar to those for painting rooms. Sharp edges, for example, have to be feathered to improve paint adhesion, dirt and sanding dust must be removed, smooth surfaces should be roughed up, and brushwork calls for keeping a wet edge. Here are some other points to consider.



WORK HORIZONTALLY, NOT VERTICALLY

Working from staging or scaffolding is the biggest timesaver on a project. Painting horizontally along a staging plank lets you keep the necessary wet edge while painting a long, horizontal swath across four courses of siding at a time. Because the upper and lower limits of each swath fall on the edge of a clapboard, there's no worry about leaving overlap marks by painting over a dry edge.

PROTECT PLANTINGS

Scraping paint shows the landscape with debris, and painting is an unavoidably drippy business. To save cleanup time and protect nearby surfaces, cover everything within about 10 feet of the house. Plastic sheets, however, can easily kill vegetation. "On a sunny day," says Clark, "you can kill a shrub in 30 minutes or less by covering it with plastic." Instead, Clark drapes breathable, 12-by-15-foot canvas tarps over wood planks supported by old milk boxes, sawhorses, or even temporary wood framing. This keeps plants cool and prevents the tarp's weight from breaking branches.

WARD OFF MILDEW

In New England, as in various other parts of the country, mildew is a scourge. It must be killed, not just covered, because the pest will grow right through new paint. Bleach is the only thing that kills it, so Clark carefully pressure washes the house using a mixture of 1 cup bleach to 1 gallon of water. He pretreats areas where mildew is particularly bad with a mixture containing twice as much bleach or more. Spray the mix on the stained area with a pump sprayer, let it sit for a few minutes (without letting it dry out), then flush the area and surrounding vegetation with plenty of fresh water. If a mildew infestation resists pretreating, work the bleach mixture in with a bristle brush or green cleaning pad. (Be sure to protect your skin and eyes.) Let surfaces dry for a couple of days before moving on to the next stage of prep work.

BUTTON UP THE JOINTS

Primer will fill hairline cracks, but paintable latex caulk with silicone is superior for sealing joints against insect and water infiltration. Clark buys it by the case and goes through a dozen tubes on a typical job. But even the best caulk won't permanently seal large, open joints. "If there's a big gap," he says, "you need more carpentry, not more caulk."

NEVER PAINT BARE WOOD

Paint doesn't adhere to bare wood as well as primer does, so any patches of bare wood must be primed before they are painted. This applies even to small areas, whether they've been scraped bare, sanded bare, or installed new.

BUY THE BEST PAINT

"I don't cut any corners when it comes to buying paint," says Clark. "Paint is cheap compared to labor." For exteriors, he prefers acrylic latex paint, which is less likely than oil-based paint to support mildew. But if a house already has oil paint on it, he'll stick with that.

Though paint is less expensive when purchased in 5-gallon buckets, large containers are difficult to move and pour from. As on interior work, he never paints from the can itself. Instead, he pours a couple of inches of paint into a pan and works from that. Before the gallon can is entirely gone, he tops it off with a fresh one. "I keep blending one gallon into another, especially on the final coat, to make sure the color stays consistent over the entire job." And if you've ever tried to read a paint label through a haze of drips, you'll understand why he always pours out of the other side of the can.

TAKE ADVANTAGE OF POWER TOOLS

Unlike preparations for painting a room, the vast reaches of siding and the typically flat surfaces of exterior trim beg for power sanders, including pad sanders (right) and random-orbit sanders.

To sand sound paint and smooth its edges, Clark relies on 100-grit aluminum oxide paper. But where paint must be removed, he gears down to 60-grit or even 36-grit. He prefers a random-orbit sander because it's maneuverable and can be hooked up to a vacuum for dust removal. Don't forget to sand door thresholds, windowsills, and other horizontal surfaces.



STEP BY STEP EXTERIOR PAINTING

- Remove shutters, and label for proper relocation.
- Repair rotten wood. Replace wood that's beyond repair.
- Spread tarps to protect steps, sidewalks, and foundation plantings.
- Pretreat heavily mildewed areas using bleach/water solution.
- Close all windows, then clean exterior surfaces and removed shutters using pressure washer and bleach/water mix. Rinse with clean water.
- Scrape off loose paint.
- Sand scraped areas and other areas as needed.
- Prime bare wood.
- Paint (one coat or preferably two).
- Remove tarps from foundation plants and walkways. Clean tools.

PREP WINDOWS RIGHT

A poorly prepped window looks awful and will never hold paint well. Loose window glazing should always be removed, never glazed over with fresh putty. Remove any paint on the glass, even where it overlaps the muntin. Later, that overlap will be reestablished with a fresh line of paint to prevent water from penetrating the joinery.

WORK SAFELY

For maximum stability, the base of a ladder should be away from the house a distance equal to about one third of the ladder's height. If there's any chance that the ladder might slip, Clark drives stakes into the ground, then ties the feet of the ladder to the stakes. Once aloft, keep your hips between the rails. "Otherwise," Clark says, "you're leaning too far for safety." ■

around the **house**

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Putting a hilltop house back on firm footing

BY LAURA FRASER

high drama

San Francisco's Telegraph Hill is renowned for its stair-stepped streets, terraced gardens, and quirky cliffside houses that perch vertiginously above the bay. One of those gravity-defying homes is a 1920s cottage with sweeping views of the Bay Bridge. That the place is still standing is testament to the mettle of an engineer, an architect, and the homeowners, who bought the two-story house intending to do a minor remodel—re-side the exterior, add a few square feet, freshen up the interior—but soon realized that the ground underneath it was slowly slipping away.

PHOTOGRAPHS BY MARK DARLEY

STYLIST HIROSHI YOSHIDA



Period details like shiplapped siding, copper flashing, and dentiled cornice work belie the fact that the house's facade was reconstructed from scratch.

A FRIGHTENING DISCOVERY

Trouble began way back in the mid 1800s, when the stone hill that the neighborhood is built upon was quarried for ships' ballast. Over the years, the slope continued to erode, destroying some older houses and leaving even newer ones teetering atop unstable foundations. In the case of the cottage, the soil had washed away from under the front of the house, causing its facade to settle. The site is so precarious that minor rock slides are a regular occurrence.

The house's predicament was so well hidden, however, that a prepurchase inspection didn't reveal it. Only after the new owners began to replace the worn wood flooring upstairs did they discover that the planks were actually the first of two false floors, built up with tapered furring strips attached to the underlying joists to disguise the problem. "Once they opened up the walls, it was a lot more of a mess than anyone realized," says Duke Crestfield, the project's structural engineer. "There really was only a partial foundation along the street, the city retaining wall was undermined, and groundwater flowed under one corner of the house. We decided to rebuild the foundation from the ground up."

STOPPING THE SLIDE

In order to reframe the house's sloped floors, workers had to first tear off the facade and gut the original 2,200-square-foot interior, which consisted of a guest bedroom, bathroom, laundry room, and garage on the ground floor, and living and dining rooms, a study, two bedrooms, and a second bathroom upstairs. Because the house's side walls were within inches of those of neighboring properties, the crew left most of the envelope intact and supported it with cribbing during the demolition.

With the facade gone, the crew was also able to more easily access the house's foundation. They removed the shallow, failing footing and poured a new, steel-reinforced concrete grade beam along the front of the house. The beam is supported by three piers that extend down through the dirt and are anchored in solid bedrock. A horizontal tie-back beam extending from the middle of the grade beam and keyed into the bedrock slope beneath the house further ensures that the whole structure stays where it is.

Once the foundation was shored up, the homeowners began to address their more

ROCK SOLID

The Telegraph Hill house once rested on fill kept in

place by a retaining wall.

But as the fill settled and

slipped under the wall,

the house's foundation

started to sink. The

homeowners turned to

San Francisco-based

structural engineer Duke

Crestfield for help. His

solution was to pour a

new, concrete grade

beam and support it with

three concrete piers. The

piers penetrate down

into the underlying

bedrock a minimum of 4

feet—the longest

stretches 12 feet. Each

18-inch-diameter pier is

reinforced internally with

rebar surrounded by a

springlike steel coil,

which helps it resist

forces that accompany

the occasional earth-

quake. The grade beam

is also fixed in place by a

15½-foot-long steel-reinforced

concrete tie-beam,

which locks into a notch

cut in the bedrock slope.

As for the cantilevered

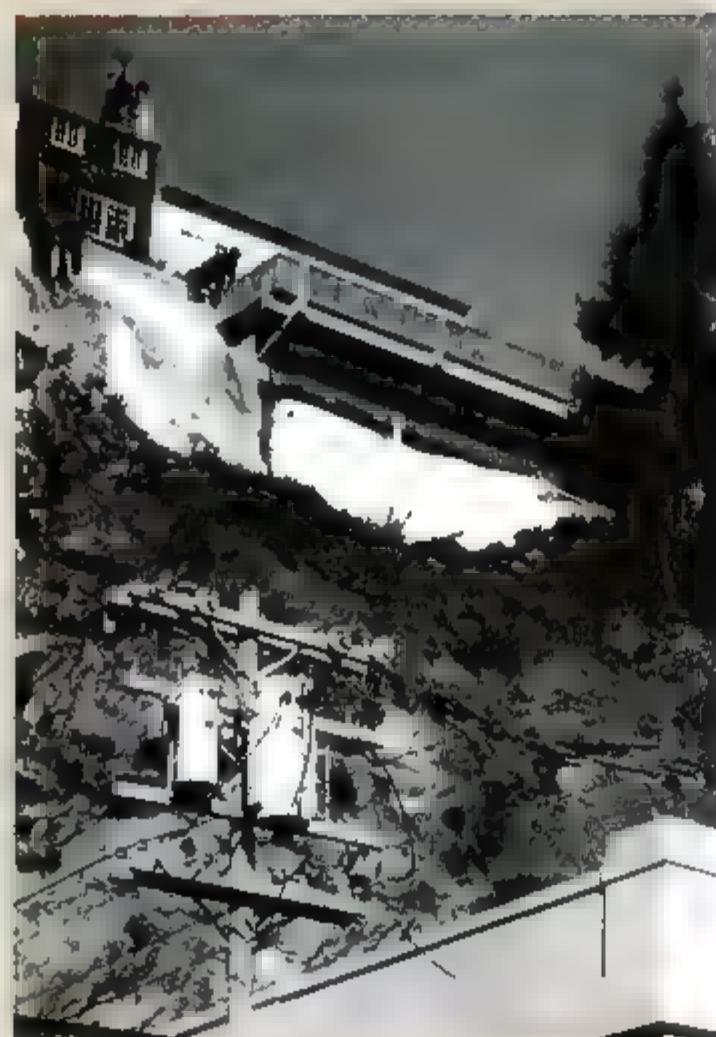
roadway, which seemingly

floats in midair, it's actually

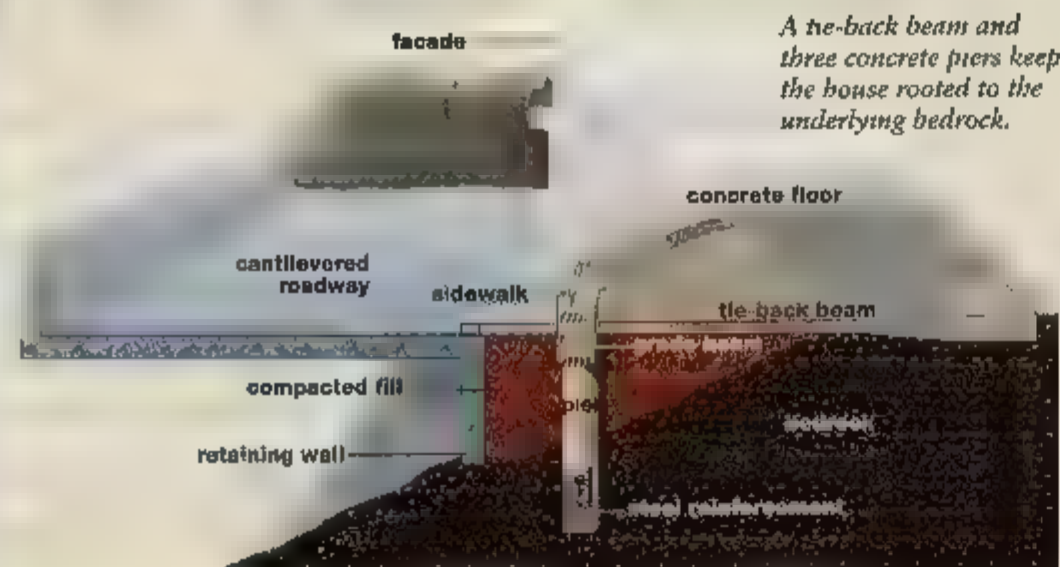
supported by a

series of concrete buttresses

stationed along its length.



A photograph of the house shows how the two-story cottage and cantilevered roadway hug the side of Telegraph Hill.



A tie-back beam and three concrete piers keep the house rooted to the underlying bedrock.

PHOTO: SAN FRANCISCO'S TELEGRAPH HILL BY DAVID F. MYRICK ILLUSTRATION: IAN WOPPOLE



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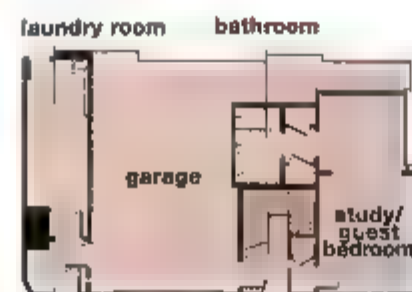


ABOVE: The great room features Douglas fir flooring and a refurbished fireplace with a new stone hearth. **BELOW:** The kitchen has custom glass-front cabinets and cleverly designed drawer fronts (INSET) that make the most efficient use of a tight space.



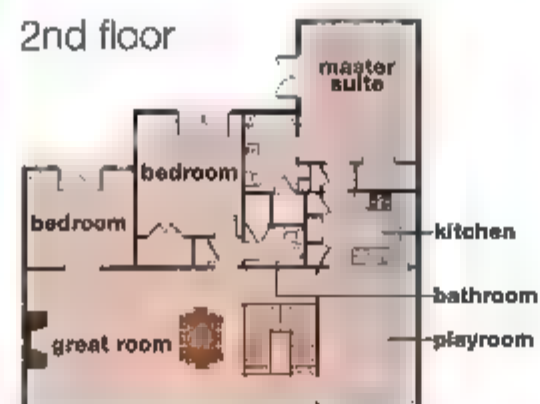
the plans

1st floor



An underutilized space once occupied by the laundry room now houses a full bath and a pair of storage closets. The former bathroom has been converted into a quiet study.

2nd floor



A master bedroom bump-out made room for a private bath, and the former dining room was turned into a playroom.

personal needs. At the top of their list was figuring out where to fit a master bathroom. Working with San Francisco architect Hilary Bates, they came up with a plan that allowed them to add a few extra square feet and still keep the house in scale with the other buildings in the neighborhood. Instead of building up, they decided to build back, into the hillside. "A third story would have spoiled the neighbors' views," Bates explains. A modest bump-out of the master bedroom added less than 100 square feet to the house's footprint, but it was just enough for Bates to squeeze in the bathroom with only a slight rearrangement of the existing floor plan.

UPDATING FROM THE OUTSIDE IN

To re-create some of the historic character the house had lost during earlier remodels, Bates and the homeowners looked to other buildings in the neighborhood for



FLOOR PLANS: TIM WIDRPOLE



ABOVE: The master bedroom opens onto a brick patio shaded by grape vines and wisteria. **RIGHT:** The garden can also be seen from the new master bathroom, outfitted with a claw-foot tub, vintage pedestal sink, and retro-looking hexagonal floor tiles.

inspiration. They replaced the exterior's mid-20th-century stucco finish with shiplapped redwood siding, typical of the area's late-1800s housing stock, and designed the exterior doors and windows to reflect period details. The garage's overhead door, for instance, was fashioned to look like the swing-out doors of a carriage house, while the windows feature handsome eared casings and bracketed meeting rails. Other details, like the facade's dentured cornice, were similarly influenced by local examples.

Although the house was almost entirely reframed, changes to the floor plan were minimal. The only significant change on the ground floor involved recasting a small bedroom and bath as a dual-purpose study/guest room, re-locating the bathroom to the former laundry room, and moving the washer and dryer to a passageway off the garage. A reconfigured staircase in the small entry foyer leads upstairs.

Climbing to the top of the stairs, the first thing you notice is a picture window with knockout views of San Francisco Bay. The street-



side half of the floor is taken up by a great room with a dining area on one side of the stairs and a playroom for the homeowners' two young children on the other. Off these rooms are a small but efficient skylighted kitchen and a full bath. Along the back of the house are three bedrooms, including the new master suite. Each of the bedrooms opens out onto the brick-patio garden. Once dark and overgrown, the backyard is now a well-pruned refuge for the homeowners, filled with camelias, hydrangeas, roses, and an old lemon tree. Eucalyptus and juniper trees at the back of the garden are a favorite hangout for the flock of wild parrots that flits through the neighborhood.

In fact, everyone in the neighborhood seems quite pleased with the results of the renovation. Less than a year after the project was completed, Bates received the Telegraph Hill Dwellers Preservationist Award from the group that oversees the local historic district. "We weren't looking to make a statement, just to fit in tastefully," says Bates. "Now it seems like the house has always been here." And it's safe to say that it always will be. ■

For a look back at our 1998 TV project in San Francisco Go to www.thisoldhouse.com or **America Online** Keyword: **This Old House** and choose "All House Projects" in the Television programs section.

recessed lighting

Neat and discreet, recessed fixtures can work in every room of the house

BY MAX ALEXANDER

It's easy to see why recessed lighting is so popular. Flip a switch, and fixtures tucked into the ceiling bathe a room in a warm glow. Flip it off, and those same fixtures seem to disappear—no lamp shades to dust, cords to hide, or chandeliers to block the view. Recessed lights are all about simplicity. In fact, says lighting designer Susan Arnold, who worked on the *This Old House* TV project in Manchester, Massachusetts, "most people just let the electrician pick their fixtures, assuming that all recessed lights are alike."

That may have made sense a few years ago, when recessed fixtures were pretty much the same: a housing (or "can") mounted in the ceiling, with no frills trim and a 120-watt incandescent bulb that pointed straight down. Today, however, the advent of tiny halogen bulbs and an explosion in trim styles and materials have given recessed lighting a whole new range of applications.

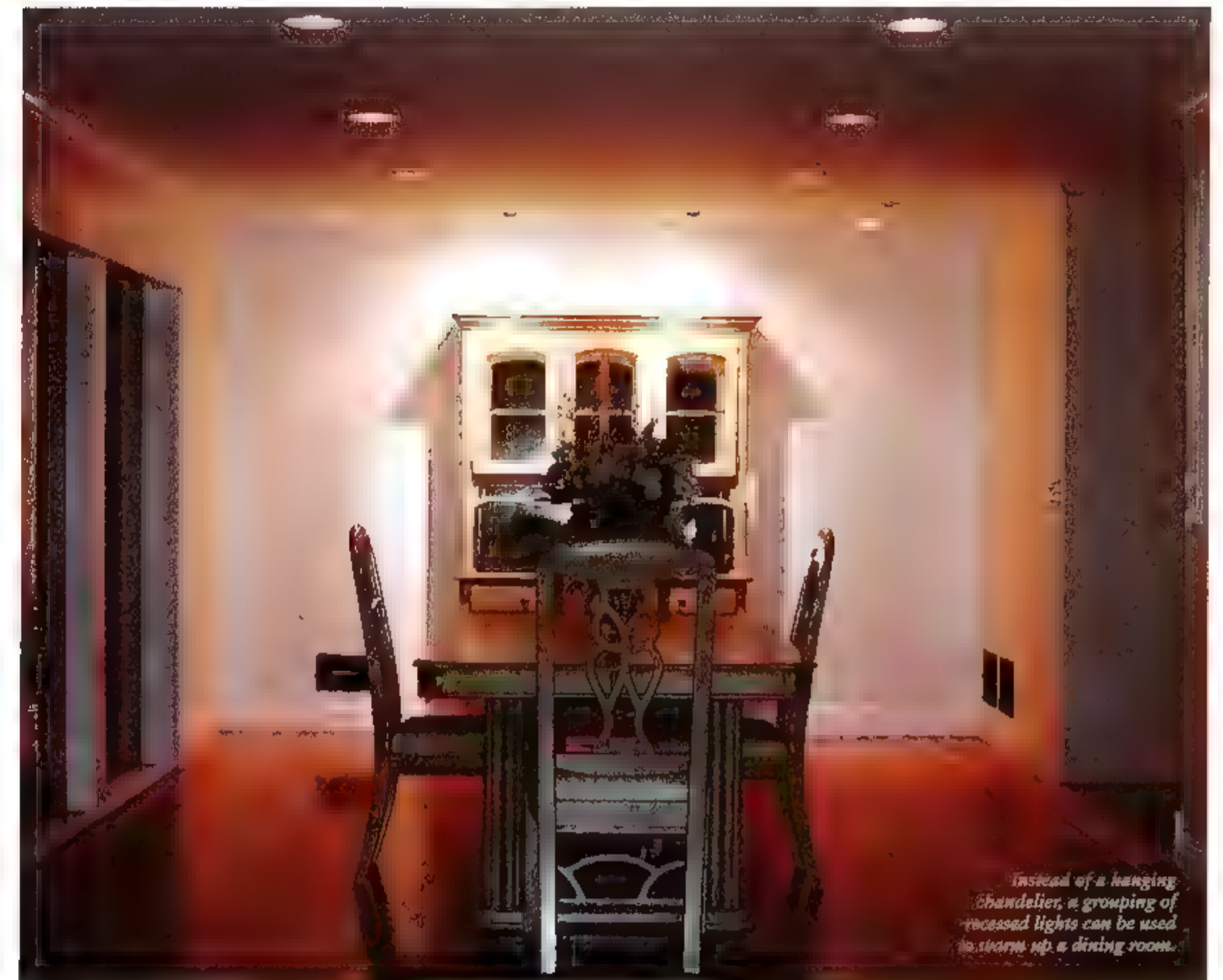
Whereas they used to dominate in practical places like basement rec rooms, now they are used in living rooms to highlight a prized painting or collection, in hallways, where they can make the narrow space appear wider, as task lights in kitchens and offices; even tucked into the wall to illuminate stair treads. Some of the newest trims are decorative focal points in and of themselves. "The range of choices is tremendous," says Randall Whitehead, a San Francisco-based lighting designer and author of *Lighting Design Sourcebook*. "There's a fixture to fit every type of decor."

WHAT TO CONSIDER

Adding recessed lighting, whether new or retrofit, can be tricky because once the lights are in place they are not easily moved (see "Installing

Recessed Lights," page 121). So it's important to think about how the room will be arranged, including the placement of furniture, before designing a lighting scheme. While recessed lighting is versatile—able to cast a concentrated beam over a workspace, for instance, or warm a room with an all-over glow—it can't do everything.

"Recessed lights are generally better at lighting objects than people, so think of them as supplementary sources of illumination," says Whitehead, who uses them in combination with other types of lights, such as lamps and hanging fixtures. On the following pages, you'll find examples of different lighting schemes and the products used to achieve them. The best way to get a feel for lighting effects is to visit a lighting showroom, which also carries the widest selection of fixtures.



Instead of a hanging chandelier, a grouping of recessed lights can be used to warm up a dining room.

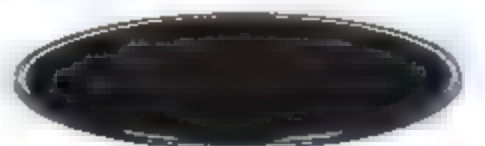
What it does: Ambient lighting fills a room with uniform, overall illumination.

How to get it: Space recessed fixtures evenly around the room about 6 to 8 feet apart. For a more even glow, group fixtures every 3 feet, installing them about 18 inches from the wall. To avoid distracting shadows, it's best to use recessed lighting in combination with other light sources and to never place recessed fixtures directly above a ceiling fan.

Best bulbs: Standard incandescent Type-A, which provide warm to medium light levels, or halogens, which provide a more natural, truer light.

Fixtures

BLACK INTERIOR, with white trim, reduces glare. Ideal for general lighting; Lithonia, about \$39.



GOLD REFLECTIVE INTERIOR casts a warm glow; Lithonia, about \$37.



WHITE INTERIOR doesn't reduce glare as much as a black one, but allows the fixture to visually disappear into the ceiling, making it the most popular of recessed styles; Lithonia, about \$10.

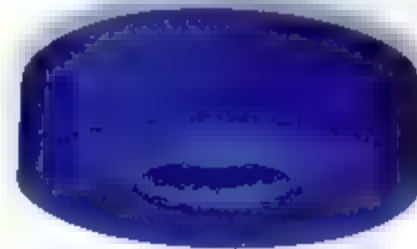


TASK LIGHTING illuminates a work surface

Strategically placed downlights are great over a key kitchen work zone.



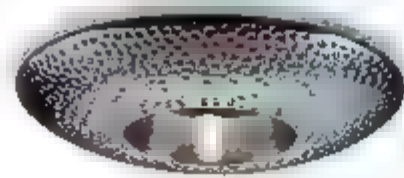
Fixtures



BLUE GLASS TRIM adds a bright spot to the ceiling, in a variety of colors; Creative Systems Lighting (CSL), \$120.



PINHOLE SPOTLIGHT beams precisely down on a work surface; Progress Lighting, \$66.



HAMMERED ALUMINUM TRIM makes a handsome design statement; CSL, \$84.



SEALED GLASS FIXTURE is made for wet locations, such as inside a shower stall, Progress Lighting, \$27.

What it does: Task lights aim light directly on work surfaces. Recessed task lights are particularly good in the kitchen, where hanging fixtures can interfere with cabinet doors. Recessed lights can also be used to illuminate bathroom counters, but they shouldn't take the place of wall lights, by themselves, recessed lights can cast harsh shadows on the face.

How to get it: To avoid shadows and to highlight cabinets, center fixtures directly over the counter edge. Closer spacing creates higher light levels.

Best bulbs: Halogens and energy-saving compact fluorescent bulbs.

Placement

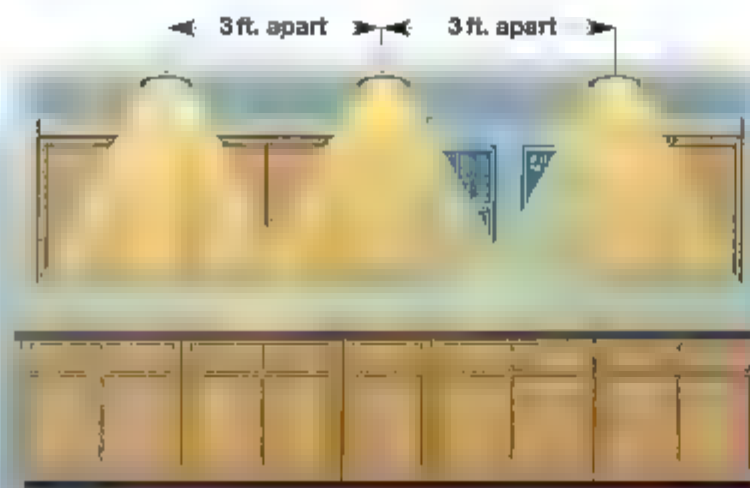


PHOTO: (LEFT) COURTESY OF LIGHTOLIER; ILLUSTRATION: MAX WOPPOLE

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ACCENT LIGHTING highlights decorative objects

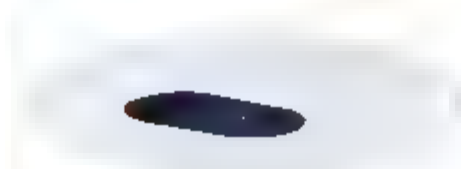


What it does: Accent lighting draws attention to art objects and architectural details. This dramatic use is probably the single best application for recessed lights.

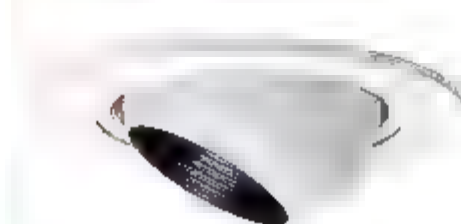
How to get it: Choose fixtures that are adjustable, so the light can be precisely aimed, and position them overhead at a 30-degree angle from the object you want to highlight. For more dramatic effects, mount fixtures directly over objects.

Best bulbs: This is where low-voltage halogen fixtures really shine. The MR 16 bulbs used for these come in a range of "beam spreads," from a tightly focused spot for illuminating a small niche to a wide flood that can accent a grouping of photos.

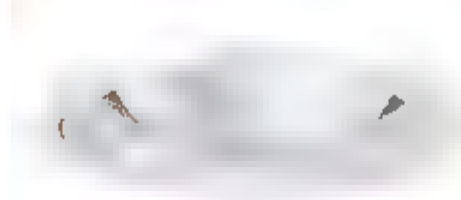
Fixtures



SLOTTED APERTURE aims a dramatic beam of light directly on an object, Lithonia, about \$37



ADJUSTABLE EYEBALL swivels to change the direction of the beam; Progress Lighting, \$44.



REGRESSED EYEBALL almost disappears from view; Lithonia, about \$30.



ETCHED GLASS LIGHT has a traditional look, CSL, \$96.

Placement

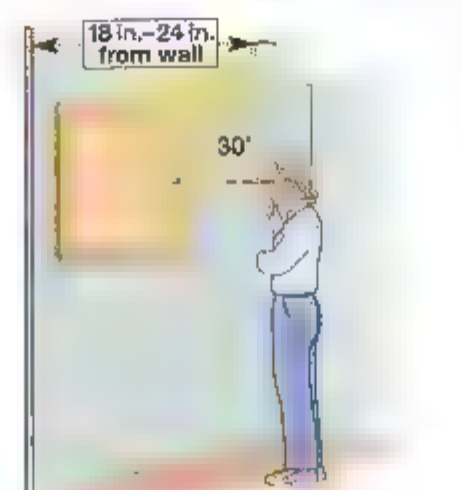
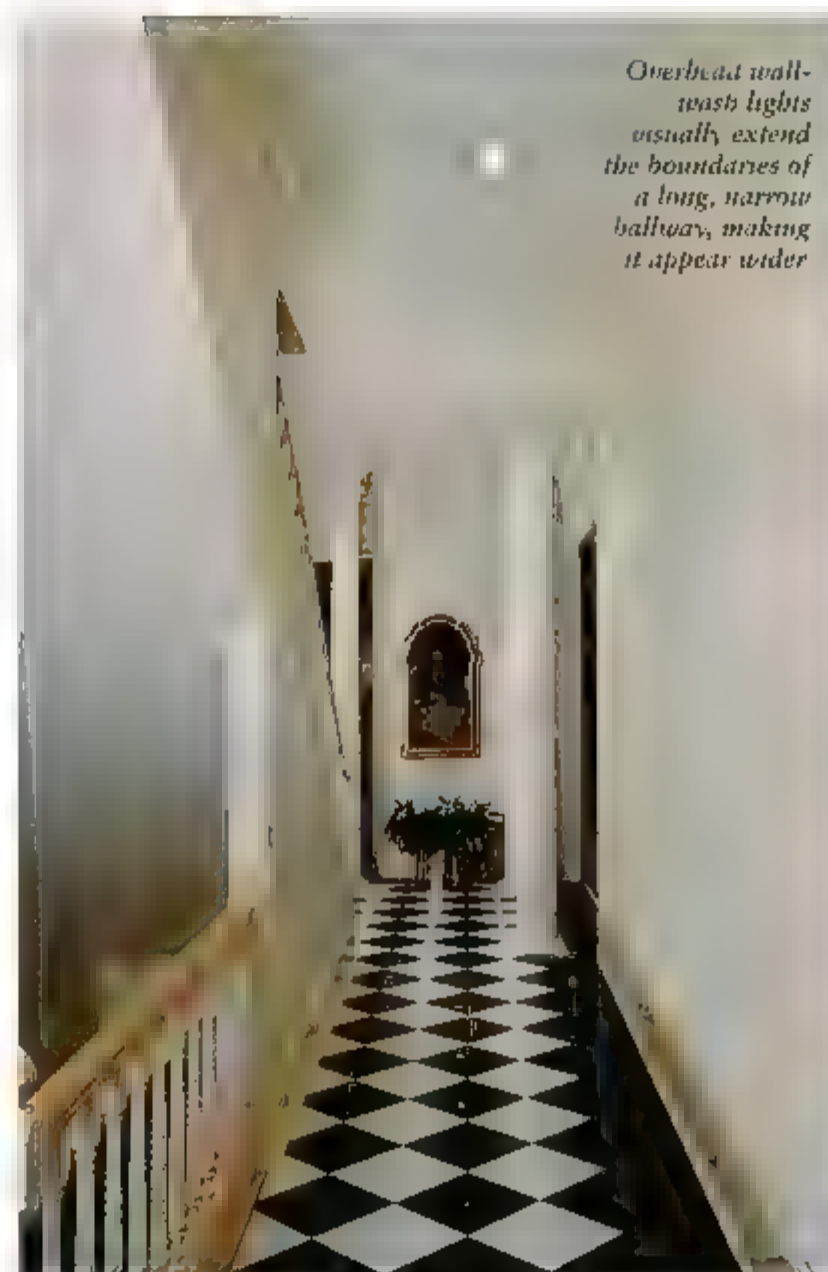


PHOTO (LEFT) COURTESY OF JUDIO LIGHTING; ILLUSTRATION: AN WOPPOLE

WALL-WASH LIGHTING | casts special effects



Fixtures



ELBOW WALL WASHER casts an even stream of downward light, CSL, \$72.

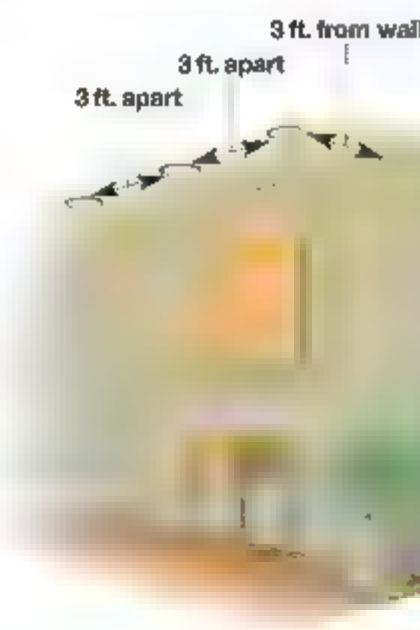


HALF-COVERED APERTURE bathes a wall with a broad beam of light, Lithonia, \$49



RECTANGULAR WALL WASHER in brushed nickel spreads light over a large surface, CSL, \$114.

Placement



What it does: Wall washing is used to accent larger areas, such as bookcases or murals. It can also make a room or hall look bigger by brightening the walls.

How to get it: Wall washers use special trims that cover half the aperture and direct light onto the wall. Black baffles—grooved inserts that surround the bulb—help reduce glare, so the lights themselves are unobtrusive.

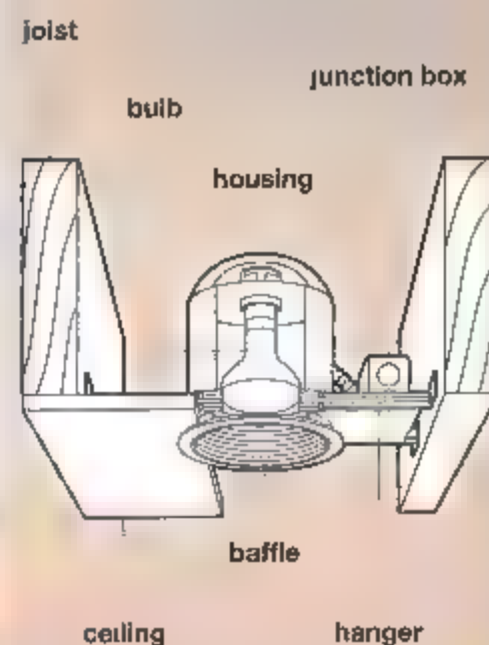
Best bulbs: Incandescent, such as standard Type A bulbs, which are warm and cozy. You can also use compact fluorescents.

For more advice from lighting designer Susan Arnold go to www.thisoldhouse.com or **America Online**. **Keyword:** This Old House and type "Susan Arnold" in the search box.

Installing Recessed Lights

Installation is fairly simple, especially in new construction. The metal housing, or can, has a bracket that gets nailed or screwed right into the joists, before the ceiling is drywalled. (Wiring should be done by an electrician.) But this isn't practical for remodeling jobs if you have to demolish a ceiling to access the joists. So manufacturers make special retrofit units that require only a small opening. You simply cut the correct-size hole into the drywall (a drill-mounted hole saw works better than a jigsaw for this job) and then insert the fixture. In new or existing construction, ceilings containing insulation require special heatproof fixtures.

If your home has older recessed lights and you want to update with new low-voltage models, you can buy retrofit kits with self-contained transformers to convert house current into the necessary 12-volt power source. All the major recessed light manufacturers sell such kits (check a lighting showroom or the Internet), which run about \$75 per fixture.



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Norm's Notebook



Paint Scraper Tune-up

Scraping loose paint off a house isn't my idea of a fun weekend. But if you can't avoid it, you might as well do what you can to make it go faster. That means using a sharp scraper. The problem is that old paint is so abrasive even new steel blades quickly become dull, so you end up working harder and harder and getting poorer and poorer results. (Carbide scraper blades stay sharp longer, but I prefer steel ones because they're less expensive and can be resharpened easily on the spot.)

I keep a flat mill file in my tool belt just

for touching up steel scraper blades, and I pull it out as soon as I notice that the blade isn't working as well as before. Three or four push strokes with the file across the edge of the blade and I'm back in business.

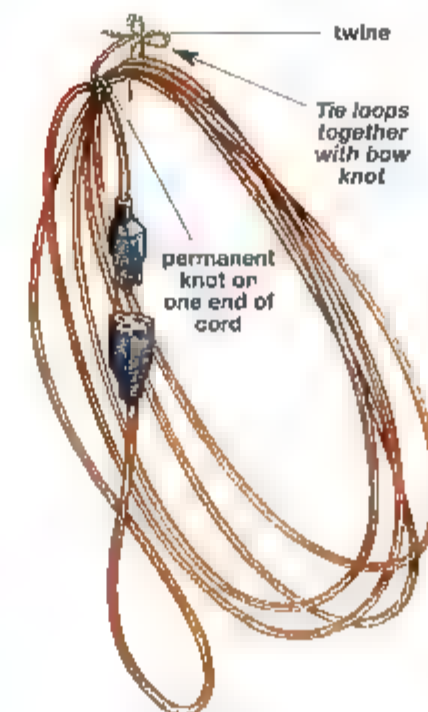
For best results, be sure to maintain the blade's bevel—you don't want to round it over. And take even strokes across the entire blade; if you file even a hair more off the center than elsewhere, the blade will gouge two ugly scars across the wood.

By the way, when using the scraper, don't move it back and forth over a surface—that just dulls the blade faster. Good, solid pull strokes are what you're after.

Fit to Be Tied

It's an unusual household that doesn't have at least one decent extension cord, and I'd bet that most readers of this magazine have more than one. I'd also bet that everyone has spent more time than they'd like to admit trying to straighten out the tangled mess these cords make if they aren't coiled properly.

The approach I've found best is to make a series of large 4-foot loops and finish by plugging one end of the cord into the other to protect the prongs from damage.



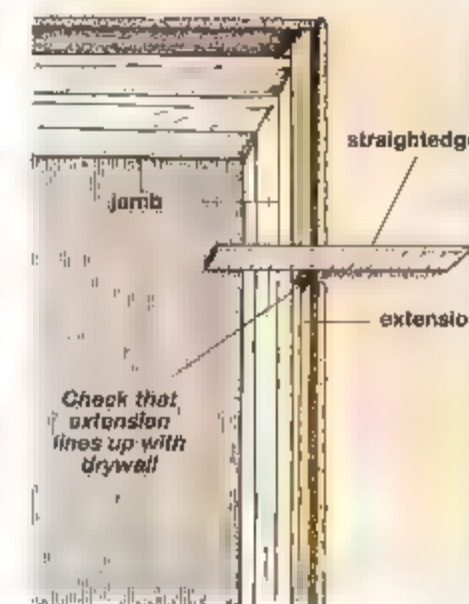
To keep the coils tidy, I knot some twine around one end of the cord and then tie the free ends of the twine together around the coils. When I'm ready to use the cord, I just untie the twine from the loops, not from the cord. I learned this trick from watching television grips manage the many extension cords they're responsible for on a set.

Extending Door and Window Jambs

Adding drywall or paneling to an existing wall in order to improve its appearance has one big disadvantage: When you retrim the doors and windows, their jambs won't reach the face of the new wall surface. The only solution is to add extensions to the jambs.

Here's how I go about it: Using a straightedge and a tape measure, I check the jambs to find the point where they're farthest from the wall surface. Then I use a table saw to cut strips to this dimension, using stock the same thickness as the jambs. After gluing the surfaces and securing the extensions to the edge of the jamb with finish nails, I set the nails and take down any high points with a block plane.

If the extensions are sizable—wider than 1 inch—I offset them just enough to leave a small reveal on the jambs' inside edges. I think this little step looks better than the paint crack that inevitably appears between mated surfaces that are flush.

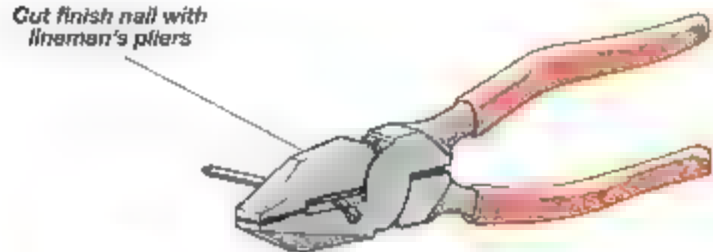


Norm's Notebook

Perfect-Size Drill Bits

Whenver you have to nail close to an end or edge of a piece of trim, you run the risk of splitting the wood. Drilling a pilot hole the same size as the nail is the solution—and you won't need to hunt for a matching bit if you use a trick my father taught me. Just snip the head off one of the finish nails you plan to use and chuck the shank into your drill. The nail becomes a bit that creates a perfect-size hole. I used the technique recently to face-nail the edges of an engineered floor, and it worked great.

Get finish nail with
lineman's pliers



Chuck headless
finish nail in drill

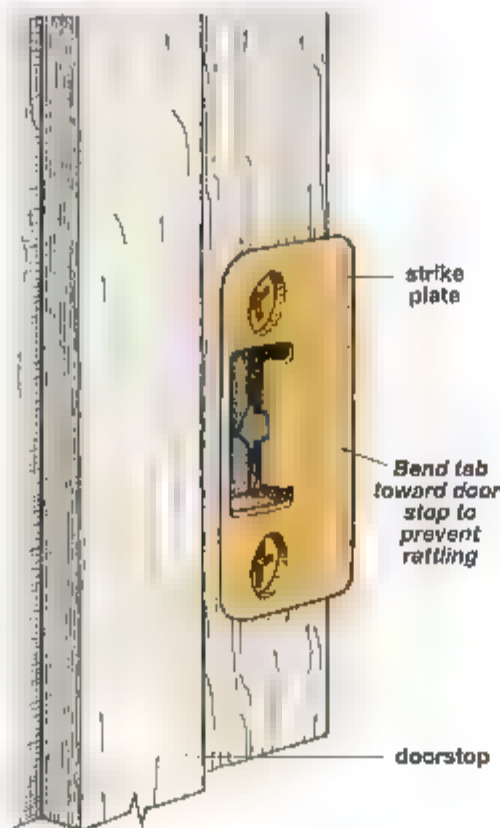


Take Away a Door's Rattle

Homeowners often eye the door latch with suspicion if an interior door rattles when it's closed. But the problem probably lies elsewhere—it's the strike that needs attention.

Doors rattle because the strike isn't holding the door's latch snugly against the stop. You can halt the rattling in an instant if your strike has a small metal tab to push the latch toward the stop. Just remove the strike and gently bend the tab up a bit with a pair of pliers. If the latch does not rattle after you remount the strike, the job's done.

On strikes that don't have a tab, loosen the screws and see if you can reposition the strike closer to the stop. If the stop is in the way, you may have to file down the strike's back edge so you can move it enough to stop the rattling.

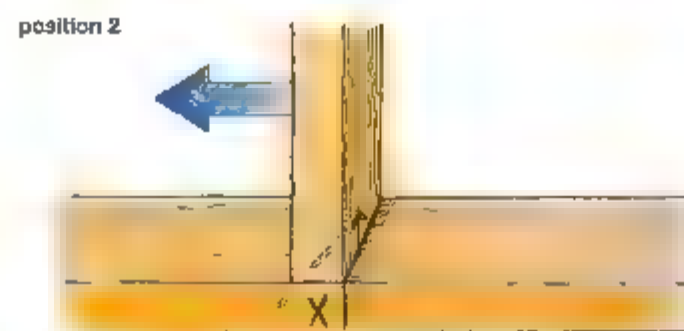
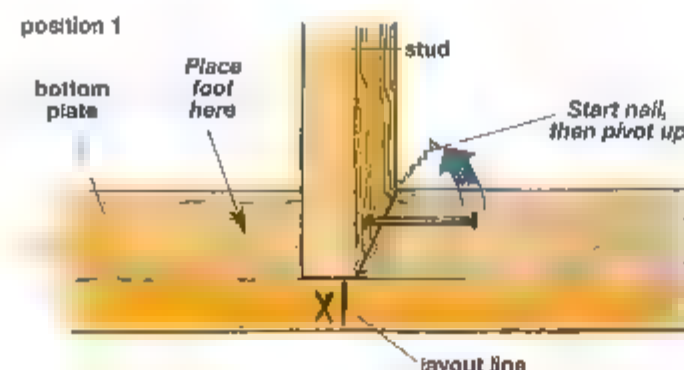


Accurate Toenailing

Carpenters frame walls in place by driving nails at an angle—*toenailing*—through the ends of studs and into the plates. The challenge when using a hammer is not to push the stud off the layout line with each blow. It's easy if you "start it back and drive it to the line." Here's what I mean.

First, cut the stud accurately. If it won't stay in place without help, it's too short. Now, line up the stud about 1/8 inch from your layout line and back it up with your foot. Start a 12d nail almost horizontal, about an inch up from the plate, and give it just enough of a tap for the point to get some bite. Then with your hand pivot the nail to a more severe angle—about 30 degrees from the face of the stud. Now each time you strike the nail with your foot still in place, it nudges the stud toward your layout line.

I typically use three nails when toenailing like this—two from one side and one centered in the other side. Driving two on one side first helps to keep the stud from twisting. Holding your foot in place as a backstop helps too.



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TV CLASSICS, PAGE 130 • WHERE TO FIND IT, PAGE 131 • PROGRAM SCHEDULE, PAGE 134



PHOTOGRAPH BY PETER LOPEZ



LEFT: The 1835 Concord barn as it appears at the start of the 1989 TV project, before inspections deem it beyond saving.
BELOW: Tom Silva, Norm Abram, and TOH executive producer/director Russ Morash meet with homeowner Lynn Wickwire over a model of the new barn.



A TOH renovation that began with a complete demolition: Concord, Mass., 1989

LEXINGTON, MASS.

Episode 26 (of 26)
(airs September 6-7)

- The Lexington project's final episode opens with a tour of the finished house by interior designer Joe Ruggiero
- TOH plumbing and heating expert Richard Trethewey installs the air conditioner garbage disposal, and shower door
- Alarm specialist Don Martini tests the new security system

CONCORD, MASS.

Episode 1 (of 26)
(airs September 13-14)

- TOH host Steve Thomas introduces the 1989 fall project: the full-scale renovation of Lynn and Barbara Wickwire's barn in Concord, Massachusetts
- The couple's plan to preserve the structure while modernizing its interior meets with skepticism as TOH master carpenter Norm Abram and TOH general contractor Tom Silva do an initial assessment
- The timber frame shows signs of rot, the tin roof is "cooked" and the floor system is dangerously weak. All this casts a shadow over hopes of staying on budget

Episode 2
(airs September 20-21)

- A closer inspection of the barn confirms Norm and Tom's worst fears—its structural integrity is completely shot
- They begin dismantling the roof and walls, hoping to salvage enough material to form the basis for a new barn on the site
- The Wickwires meet with architectural designer Jack Gifford. Their request: Design a barn that looks and feels like the original

Episode 3
(airs September 27-28)

- Master framer Tedd Benson concludes that even the posts and beams are too far gone: the only option is to level the barn
- Crew members hammer out a few pegs, cut a handful of braces, and take cover as the structure falls to the ground
- Benson makes the Wickwires an unusual money-saving offer: He'll hold a timber framing class on the site, and at the end of a week the students will raise the Wickwires' new barn the old-fashioned way



After making a few judicious cuts to the old timber frame, the crew pulls the barn to the ground.



House Calls, p. 27. This sleek black island helps give a kitchen a contemporary look.

ON THE JOB pp. 22-26

Did You Know: Zinsser Co., Inc., Somerset, NJ; 732-469-8100; www.zinsser.com
Before & After: Wilcox Architecture, Cincinnati, OH; 513-271-5312
Utility knife: Superknife, Scottsdale, AZ; 866-756 4331, www.superknife.com
Timber Quest: Mountain Lumber Company, Ruckersville, VA; 800-445-2671, www.mountainlumber.com
Lesson Learned: John Dee Painting, Concord, MA; 978 369 8897, www.johndeepainting.com
True Americana: For more information on barn preservation, contact Barn Again!; 303-623 1504, www.barnagain.org
DIY Carpet: Legato Carpet System, Miliken Company, LaGrange, GA, www.legatocarpet.com, 866-253-4286
InterfaceFlor, Chicago, IL; 866-281 3567, www.interfaceflor.com.

HOUSE CALLS pp. 27-30

Kitchen designer: Kathy Gray, Kitchen & Bath Concepts, Inc., Nashville, TN; 615 256-3007; www.kitchenbathconcepts.com
Cabinetry: Frameless cabinets, StyleCraft Corporation, Blue Ball, PA; 717-445 6270, www.stylecraftcabinets.com
Range and vent hood: Professional Series 48 in. dual fuel range, Model#

WHERE TO FIND IT

PDR484GGZS and Professional Series 48-in. wall hood, Model# PHE48US, Thermador, Huntington Beach, CA; 800-735-5547; www.thermador.com
Refrigerator: 600 Series, Sub-Zero, Madison, WI; 800-222 7820; www.subzero.com
Warming drawers: Thermador
Microwave: GE Monogram, 800-626-2000; www.monogram.com
Microwave trim kit: Micro-Trim, Santa Ana, CA; 800-338 8746; www.microtrim.com

Dishwashers: Bosch Home Appliances, Huntington Beach, CA; 800-944-2904, www.boschappliances.com
Kitchen and butler's pantry prep sinks: Blanco America, Cinnaminson, NJ; 800 451-5782; www.blancoamerica.com
Faucets: KWC, Norcross, GA; 877-592-3287; www.kwcfaucets.com
Pendant lights over peninsula and island: Forecast, Elgin, IL; 847-622-0416, ext. 340; www.forecastltd.com
Cabinet hardware: Forges Collection, Vail & Valli, New York, NY; 877-326-2565; www.vallievalli.com



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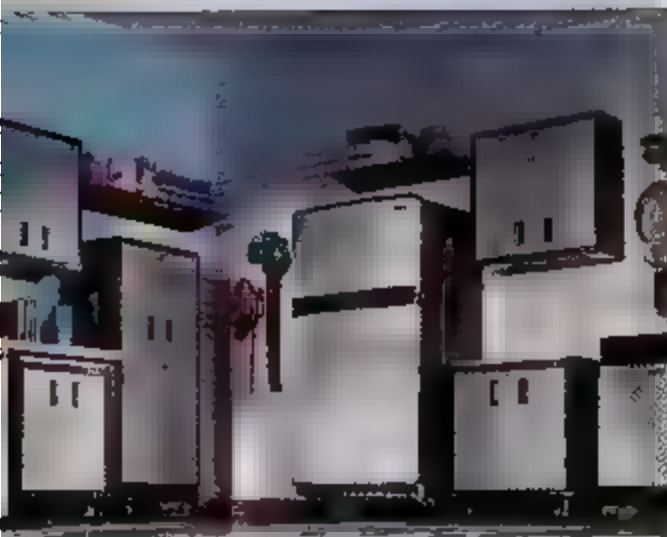
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Canada: Jandel Distributors, Inc., 6505 Metropolitan Blvd. East, Montreal, Quebec H1P 1X9
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WHERE TO FIND IT

ASK THIS OLD HOUSE pp. 32-37

Handrail hardware: Ives Schlage handrail hardware, Olathe, KS, 800-766 1966, www.schlagelock.com.
Handrail codes: International Residential Code 2000 Stair Building Code; Stairway Manufacturers Association; www.stairways.org.
Electrostatic air cleaners: Honeywell, Morristown, NJ, 800-328-5111, www.honeywell.com.
Cedar oil and red cedar products: Giles & Kendal, Inc., Huntsville, AL, 800-225 6738, www.aromaticcedar.com.
Masonry screws: Tapcon masonry fasteners, ITW Buildex, Itasca, IL, www.itwbuildex.com.
Our thanks to: Robert H. Lecky, building official, Town of Jupiter, Building Officials Association of Florida, www.boaf.net.
Metal repair: Bondo Home Solutions All Purpose Putty, Bondo Corporation, Atlanta, GA, 800-622 8754, www.bondo-online.com.
Specialty cabinet hardware: Woodworker's Supply, Inc., Albuquerque, NM, 800-645 9292; www.woodworker.com.

BY DESIGN: OVER-THE-TOP COPPER pp. 39-42

Intro—
"Florentine" leader head for 4 in. downspout (\$2,400), cross-shaped gargoyle elbow for 3-in. downspout (\$580), 9-in "fishscale" roof shingles for conical roof (\$12 each), 43-in length of twisted 4 in. downspout (\$270), and lion-head wall fountain ornament (\$480) by Hans Liebscher Custom Copper Works and Sheet Metal, Inc., San Marcos, CA, 760-471-5114, www.hansliebschercopperwks.com (Boxed leaderhead for 4 in. downspout no longer available.)
Pages 40 and 42—
All copperworks custom made by Vulcan Supply Corp., Westford, VT, 800-659-4732, www.vulcansupply.com. 6-in. pineapple finial (\$3,800) now available from the Vulcan catalog.



By Design, p. 39. Copper is being crafted into eye-catching details, as on this dome.

Our thanks to: Heirloom Metals, Holtwood, PA, 717 284-7055.
For more information: Copper Development Association, New York, NY, 212-251-7200; www.copper.org.
Revere Copper Products, Inc., Rome, NY, 800-448 1776; www.reverecopper.com.

UPKEEP: WEATHERING THE STORM pp. 44-50

Storm windows: Tru Channel line, Harvey Industries, Inc., Waltham, MA, 800 942 7839, www.harveyind.com.

TALKING SHOP: GET A GRIP pp. 53-58

Page 54—Locking pliers
Curved jaw: Craftsman Professional 7 in. locking Model# 00945710000; Sears, Roebuck and Co, 800-549-4505; www.craftsman.com.
Long-nose: Vise-Grip Model# 9LN, Irwin Industrial Tools, www.irwin.com.
Tongue-and-groove: Crescent Model# R212C, Cooper Tools; Raleigh, NC, 919 362 1670; www.coopertools.com.

PHOTO COURTESY OF VULCAN SUPPLY CORP.

WHERE TO FIND IT



Talking Shop, p. 53. Learn to choose the right pliers.

LUXURIES: SOMETHING IN THE WAY IT MOVES pp. 68-72

Pipe-gripping: Knipex Model# 8103230, Anglo American Enterprises Corporation, Somers, NJ, 856-784 8600; www.knipex.com.
Wrench-plier: Knipex Model# 86 03 250.
Page 58—Nonadjustable (left to right), Lineman's: Model# D213-9NETH Klein 9/4 in. Lineman; Klein Tools, Chicago, IL, 800-553-4676, www.kleintools.com.
Curved needle-nose: Knipex mechanic's pliers Model# 38-200.
Needle-nose: Long-nose pliers-Model# 326, Channellock, Meadville, PA, 814-724 8700, www.channelock.com.
Bent needle-nose: Ace professional 4-in smooth jaw hobby pliers Model# 2004182, www.acehardware.com.

HOME TECHNOLOGY: CLEARING THE AIR pp. 60-66

Filters—(Page 62), Flat furnace filters: Fiberglass mesh and standard pleated, FiltersUSA.com, Chicago, IL, 877 345 3371, www.filtersusa.com.
Extended media: Model# 2200, Aprilaire, 608-257 8801, www.aprilaire.com.
Air purifiers—(Page 64)
Electronic: Enviroaire Elite F300E, Honeywell, Morristown, NJ, 800-328-5111; www.honeywell.com.
UV: PureAir Air Purification System, Lennox, Richardson, TX, 800 953 6669, www.lennox.com.
Portable air purifiers—Page 66 (left)
Blueair 501, Blueair, Inc., provided by Pure n Natural Systems, Inc., Morton Grove, IL, 800-2237-9199; www.purenatural.com.
(right) Whispure Model# AP25030H, Whirlpool; 800-253 1301, www.whirlpool.com.



Luxuries, p. 68. A soothing ride and interesting designs keep rockers popular.

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Morris chair: L & J.G. Stickley, Inc., Manlius, NY; 315 682 5500, fax 315-682 6306, www.stickley.com
Arm-shell rocker: Modernica, Los Angeles, CA, 323 933 0383; www.modernica.net
Philadelphia airport rockers: Tyndall Creek Furniture Company; 877-896-3255; tyndallcreek.com
Kennedy rockers: Carolina Rocking Chair Co.; 800-228 3876, www.carolinarockingchair.com

**HOMEOWNER'S HANDBOOK:
INSTALLING A FREEZEPROOF
FAUCET**
pp. 75-81

Freezeless Wall Hydrant: Model# C-144, Prier, Grandview, MO, 800-362 1463, www.prier.com.

BARN STORMING
pp. 90-91

Architect: Holly Cratsley, AIA, principal, Nashawtuc Architects, Inc., Concord, MA, www.nasharch.com

GET READY FOR FALL
pp. 92-98

Landscape contractor: Roger Cook, K & R Tree and Landscape, Burlington, MA, 781 272 6104.



"Get Ready for Fall," p. 92. TOH landscape contractor Roger Cook shows how to spruce up your yard.

**THE PERFECT
PAINT JOB**
pp. 99-106

Paint contractor: Jim Clark, Clark Painting, Sudbury, MA, jctoh@aol.com
Painter's tape: Painter's Masking Tape, 3M Professional Grade, 888-364-3577; www.3m.com
Bucket liner: 5 Quart Pro-Lin'R Jr. with roller grid, Encore Paint Sundries, Division of Encore Plastics Corp., Bellevue, OH; 800-336-2673; www.encore.com
Mini rollers: Mini-roller fiber covers, Whizz Roller System, Worktools International, Largo, FL; 800-767-7038; www.whizzrollers.com/whizz. RollerLite, Quali-Tech Manufacturing, Rancho Dominguez, CA; 310-637-8900; www.qualitechmfg.com
Paintable caulk: Dap ALEX Painters Caulk, DAP Inc., Baltimore, MD, 800-543 3840; www.dap.com
Patching products: Durabond 90, USG, Chicago, IL; 800-874-4968, www.usg.com. Bondo Home Solutions All-Purpose Putty, Bondo Corporation, Atlanta, GA, 800-622 8754, www.bondoonline.com. DAP Vinyl Spackie, DAP Inc.
Paint conditioners: Penetrol (oil) and Floetrol (latex), The Flood Company, Hudson, OH, 800-321 3444; www.floodco.com
Primer: Fresh Start All Purpose 100% Acrylic Primer, Benjamin Moore & Co., Montvale, NJ; 800-344-040, www.benjaminmoore.com
Paint: Navajo White (satin) for trim and wainscoting, and Soft Fern Green (eggshell), on the walls, Benjamin Moore & Co.

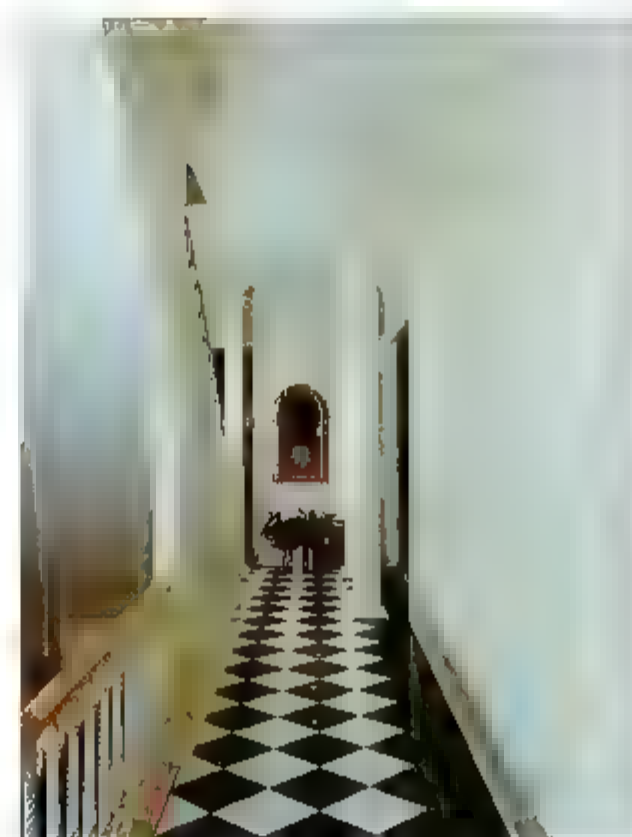


"High Drama," p. 108. The master bedroom of a shored up cottage atop San Francisco's Telegraph Hill opens onto a wisteria-shaded brick patio.

HIGH DRAMA
pp. 108-115

Architect: Hilary Bates, of Butler Armsden Architects, San Francisco, CA, 415-674-5554; www.butlerarmsden.com
Building contractor: Paul Romanek, project manager, Stroub Construction, Sausalito, CA; 415-331-0621, www.stroubconstruction.com
Structural engineer: Duke Crestfield, Triangle Engineering, San Francisco, CA, 415-626 6972.
Page 108—Vintage pendant lamp: Ann Morris Antiques, New York, NY; 212-755-3308 (to the trade only).
Page 114—(Top) Vase on mantel: X 21 Modern, San Francisco, CA, 415-647-4211; www.x21modern.com.
(Bottom) Vases, vintage cookie jar, vintage polka-dot canisters: X 21 Modern. **Vintage pitcher:** La Tulipe Noire, San Francisco, CA; 415 922-2000. **Vintage French yellow vases, vintage latte cup, vintage tins:** The Butler & The Chef, San Francisco, CA; 415-642-6440; www.thebutlerandthefish.com.
Page 115—(Top) Felt bed pillow: Nest, San Francisco, CA; 415-292-6199. **(Bottom) Floor tiles:** Waterworks, Danbury, CT, 800-998 2284; www.waterworks.com

PHOTOS: (TOP) MARK DARLEY (BOTTOM) KELLER & KELLER



"Recessed Lighting," p. 116. Discreet "wall washing" makes a hallway appear larger.

RECESSED LIGHTING
pp. 116-121

Ambient—
Black interior downlight: Model# 6C3BL, gold interior downlight: Model# 6C3GZ; white interior downlight: Model# 6O2—all by Lithonia Lighting, 770-922 9000, www.lithonia.com.
Task—
Pinhole: Model# P8065-28, Progress Lighting, 864-599-6000; www.progresslighting.com.
Blue glass: Low profile regressed downlight Model# RLV-2620CB by Creative Systems Lighting (CSL), City of Industry, CA; 800-336-4511, www.cs.lighting.com.
Hammered aluminum: Adjustable disc downlight with polished aluminum trim Model# 2600 by CSL. **Shower light:** Albalite Glass Model# P8008 60 by Progress Lighting.
Accent—
Slotted aperture: Model #3VA5 by Lithonia. **Adjustable eyeball:** Model# P8057 28 by Progress Lighting. **Regressed eyeball:** Model# 6RE1 by Lithonia. **Etched-glass:** Model# MR11. **Pulldown adjustable trim in clear etched glass:** Model# 7252 by CSL.

Time Publishing Ventures and This Old House Ventures do not endorse any product or service mentioned or advertised in this magazine.

Elbow wall washer: Downlight Trim (black) Model# 7001 by CSL.
Rectangular wall washer: Model# RLV-2704 with brushed nickel housing and trim by CSL. **Half-covered aperture:** Model# 6W2 with black baffle by Lithonia.
Our thanks to: Randall Whitehead, IALD, Randall Whitehead Lighting, Inc., San Francisco, CA, 415 626-1277; www.randal.whitehead.com. Susan Arnold, Wolfers Lighting, Waltham, MA, 781 672-4200;

www.wolfers.com
For further reading: *Lighting Design Sourcebook*, by Randall Whitehead; Rockport Publishing.

SAVE THIS OLD HOUSE
p. 152

Our thanks to: Frank Ethridge, Philippa Denny, Leroy Lewis, Joe Cox, John Livingston, and Teresa Haythorn for all of their Louisville stories that didn't make it into the article.

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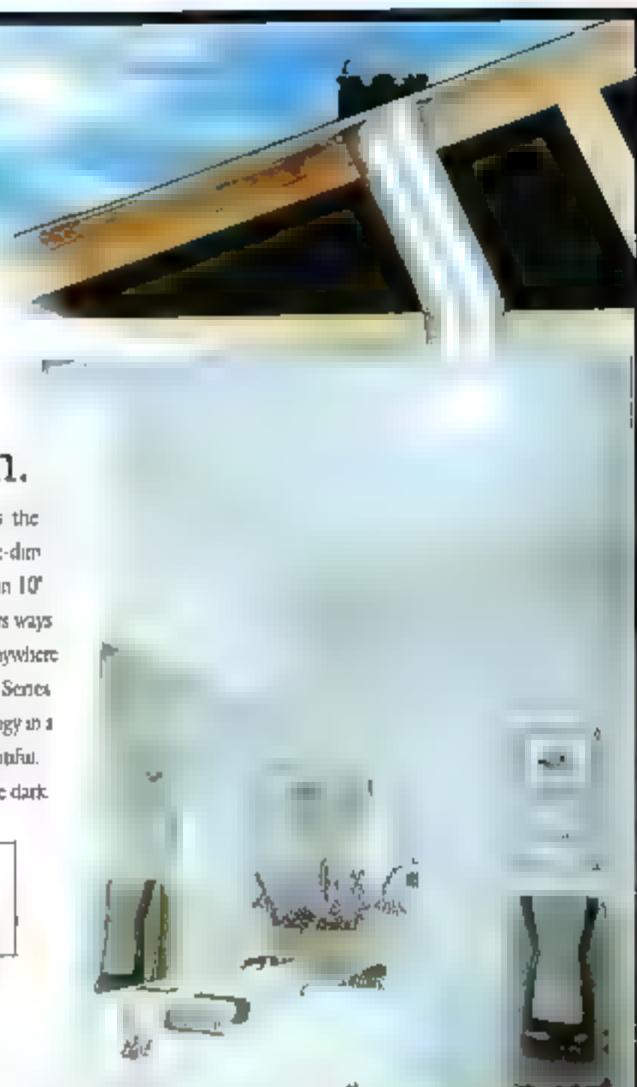


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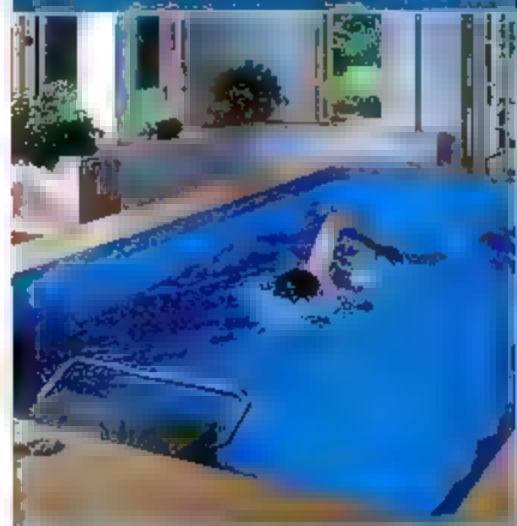
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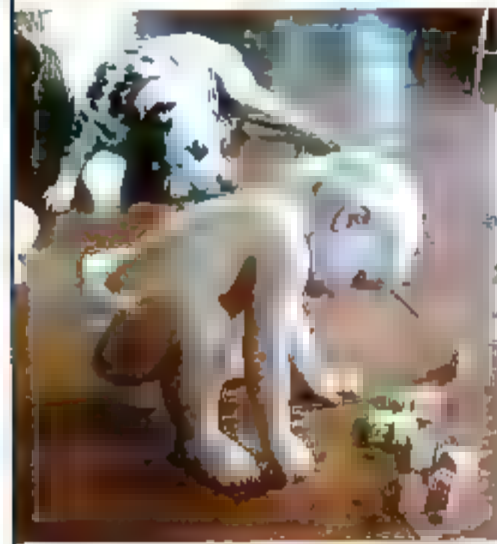
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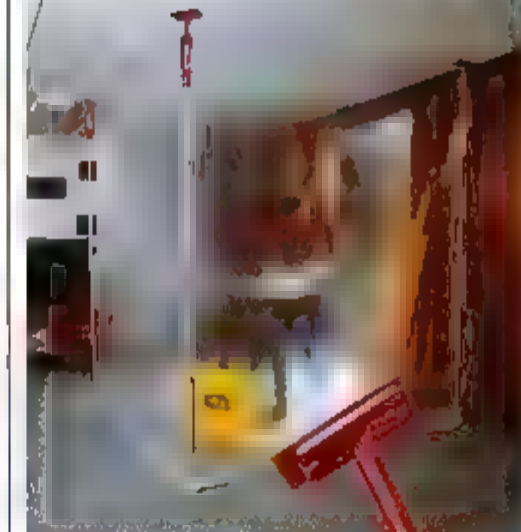
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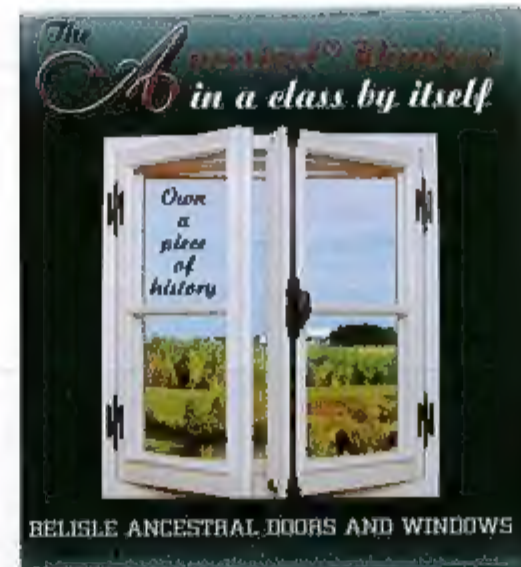
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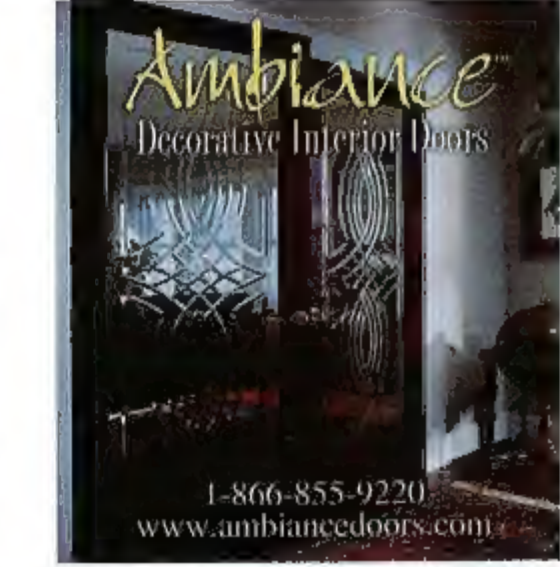
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LOCATION

Louisville, Georgia

By the 1920s this turn-of-the-century mercantile building had been converted into Louisville's volunteer firehouse. And police headquarters. And jail. And that was just the first floor. Upstairs was the city hall, city council, and telephone exchange. Locals could even pay their utility bills there. The building also served as one of the town's main sources of entertainment. Former firefighter Frank Ethridge recalls the days when residents excitedly chased the fire trucks down the streets. One particular evening, while the rest of the department was out on a training mission, he stayed behind to rewire the firehouse's rooftop siren. "I had to set it off several times, and pretty soon we had a bunch of people out front demanding to know where the fire was," says Ethridge. "When I told them there wasn't one, they kept saying, 'Well, then where are all the fire trucks?'"

The firehouse's masonry facade is dominated by a pair of bay doors through which the old American LaFrance fire trucks once raced, and the fire siren still peeks over the roof parapet. Two nearly full-height pilasters frame the building. The first floor of the 3,740-square-foot structure is made up of a large garage space, the old jail's holding cell, and two storage closets; the second floor is divided into five rooms, including a bathroom, with linoleum tiles concealing much of the original pine-board flooring.

In the early 1960s the city offices were relocated, and in 1974 the firehouse was decommissioned; the building has been vacant ever since. The roof and several windows have been replaced, but the structure requires a new interior support column and upgrades to its electrical and plumbing systems. The upper floor of the adjoining building was recently converted into apartments. Many residents have expressed hope that the firehouse's new owner will do the same, and perhaps open a restaurant in the bottom portion along the way.

All changes to the property's exterior must be approved by The Georgia Trust for Historic Preservation.

CONTACT: Frank W. White, The Georgia Trust, 404-881-9980

If you know of a house that should be saved, please write to: Save This Old House, 1185 Avenue of the Americas, 27th floor, New York, NY 10036.

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ABOVE: This brick building once housed nearly every municipal office in Louisville (pronounced "Lewisville"), including both fire and police headquarters. **LEFT:** A photo from a 1956 issue of Life magazine shows volunteer firefighters Cleveland Johnson and Jimmy Polhill "handling hose" in front of a department fire truck. **BELOW LEFT:** A trio of arched windows helps light the structure's second floor. **BELOW:** The downstairs features a rather quaint holding cell left over from the city's old jail.



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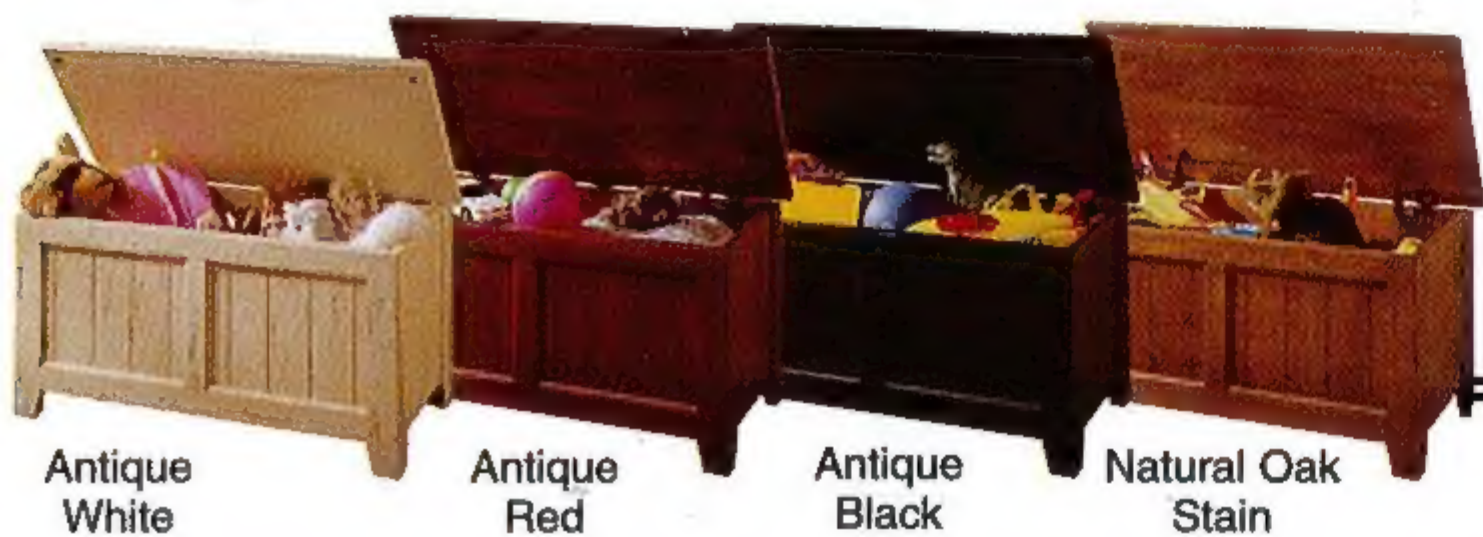
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